Chapter 6
Summary, Findings, Conclusion and Suggestions

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Chapter 6

Summary, Findings, Conclusion and Suggestions

The previous chapter covered the detailed analysis and interpretation of investment pattern of insurance companies in India for the period of 13 years from 2002-03 to 2014-15. This chapter deals with summary, findings, conclusion and suggestions based on the outcome of analysis & interpretation of the research and also provides the direction for future research. An attempt has been made to summarize and conclude the research and give important suggestions in order to achieve the objectives of the study.

6.1 Summary

The whole study is presented into six chapters. A brief outlook of the entire thesis is presented below to exhibit the work done by the researcher for the purpose of the study:

Chapter 1 entitled “Introduction and Research Design of the Study” presents a holistic view of the entire research work. The statement of the problem, research gap, scope of the study, its objectives, various hypotheses, research methodology, limitations, structure of the research and expected contribution of the study have been presented in this chapter. The study has been carried out to study investment pattern of private insurance sector in India since 2000 which formed the basis for setting the objectives of the study. The study examined investment pattern and investment efficiency of 12 private life and 8 private non-life insurance companies from 2002-03 to 2014-15. Forces of liberalization, privatization and globalization have brought private and foreign insurance companies in the Indian insurance marketplace which is the chief motive behind opting 2000 as the base period for present work. The hypotheses of the study are based on five variables. Variables related to investment pattern are: government securities investments, housing & infrastructure investments and approved & other investments. These are the factors on the basis of which one can easily judge the investment pattern of insurance sector as they are important classification of investment portfolio. Apart from this, investment efficiency is also measured on the basis of input (Total investment) and outputs (Investment income to shareholders and Investment income to policyholders).
Chapter 2 entitled “Review of Literature” is the indispensible part of the study. This chapter presented the brief review of the studies undertaken by various researchers in the field of investment management of insurance sector. It covers the studies from 1988 to 2016 and proved beneficial in finding the gap in the existing literature. This chapter covers the studies related to present status, challenges and future prospects of insurance industry; studies related to investment pattern of insurance companies; studies related to the investment regulations of insurance companies and finally the studies related to investment performance of insurance companies.

Chapter 3 entitled “Privatization of Insurance Sector in India” discusses the concept of privatization, rationale of privatization both positive and negative and shortcomings of privatization. In this chapter privatization in India, economic and financial sector reforms and privatization of Indian insurance sector have been discussed in detail. Privatization of Indian insurance sector covers formation of the committee for reform in the insurance sector, establishment of IRDAI, entrance of private companies and various milestones in post reform period. The growth and development of Indian insurance sector during post privatization have been explained with the help of tables and graphs. The chapter highlighted that privatization opened newer vistas for the management especially private players to grow and excel, but at the same time posed several challenges to them as in reality they have been thrown into a system of full competition. For public sector insurers, the changing scenario proved to be very challenging. The role of the public sector has also undergone several changes as in pre liberalization period there were few public sector entities ruling the whole market. However, the performance of both public and private sector has been improved during post privatization.

Chapter 4 entitled “Investment Pattern of Insurance Sector in India” deals with investment pattern of insurance companies in exhaustive way. This chapter is designed to get familiar with investment pattern and investment regulations of insurance companies in India. In this chapter, approaches of investment pattern, principles of investment, determinants of investment pattern, and growth and trends of investment of insurance sector have been discussed. The chapter highlighted that insurance companies abide by some approaches and principles in designing their portfolio.
Chapter 5 entitled “Investment Pattern of Private Insurance Sector in India since 2000: Analysis and Interpretation” deals with the data analysis part of the study. This chapter presented the detailed analysis of investment pattern of private insurance sector in India. In this chapter, hypotheses related to the investment pattern of private life and private non-life insurance companies are tested with the help of ANOVA. Paired sample t test is used to test hypotheses related to investment pattern of private life and private non-life insurance sector in pre and post insurance investment (amendment) regulation 2008. The study also assesses investment efficiency with the help of DEA. The results are interpreted on the basis of hypotheses testing.

Chapter 6 entitled “Summary, Findings, Conclusion and Suggestions” comprises the summary of the entire research work and deals with the findings of the study as well as the suggestions offered by the researcher for improving investment pattern. The directions for future research have also been given at the end of the chapter.

6.2 Findings of the Study

The findings are based on in depth investigation of the research problem and analysis of the data. The major findings of research are:

6.2.1 Findings related to Investment Pattern of Private Insurance Companies

This section deals with findings related to investment pattern of private insurance companies. Under this section, findings related to hypothesis 1 and hypothesis 2 are presented. In India, investment pattern of insurance companies is broadly divided into three categories. These are government securities investments; housing & infrastructure investments; and approved & other investments.

Private Life Insurance Companies

- Investments in government securities by private life insurance companies have declined during the study period. From the one-way ANOVA statistic a significant difference is found in government securities investments of selected private life insurance companies of India during 2003-15. From the Tukey’s HSD post hoc analysis, it is found that seven mean comparisons are statistically significantly different which are AVIVA Life and Max Life (0.038), Birla Life and Max Life (0.000), Birla Life and MET Life (0.026),
Birla Life and SBI LIFE (0.013), Birla Life and TATA Life (0.000), ICICI Life and MAX Life (0.002) and finally between ICICI Life and TATA Life (0.005).

- It is found that private life insurance companies’ investments in housing & infrastructure have shrunk during the study period. The one-way ANOVA statistic shows that there is a statistically significant difference in housing & infrastructure investments across selected private life insurance companies. Examination of the Tukey’s HSD post hoc analysis finds that statistically significant difference exist between six mean comparisons which are Birla Life and Exide Life (0.004), Birla Life and MAX Life (0.000), Birla Life and MET Life (0.001), ICICI Life and Exide Life (0.005), ICICI Life and MAX Life (0.000) and finally between ICICI Life and MET Life (0.001).

- Approved & other investments have shown a substantial increase from 2002-03 to 2014-15. The result of one-way ANOVA shows that there is a statistically significant difference in approved & other investments across private life insurance companies. Examination of the Tukey’s HSD post hoc analysis reveals that there is statistically significant difference between AVIVA life and Max Life (0.042), Birla Life and Exide Life (0.030), Birla Life and MAX Life (0.000), Birla Life and MET Life (0.010), Birla Life and SBI LIFE (0.025), Birla Life and TATA Life (0.001), ICICI Life and MAX Life (0.001) and finally between ICICI Life and TATA Life (0.005).

Private Non-Life Insurance Companies

- It is found that government securities investments by private non-life insurance companies have shown a decline from 2002-03 to 2014-15. Based on the result of one-way ANOVA, it is found that there is a statistically significant difference in government securities investment across private non-life insurance companies. Examination of the Tukey’s HSD post hoc analysis reveals that three mean comparisons are significantly different which are Bajaj General and TATA General (0.036), IFFCO General and TATA General (0.031), and finally Royal General and TATA General (0.014).

- Housing & infrastructure investments by private non-life insurance companies have shown upward movement from 2002-03 to 2014-15. The result of one-way ANOVA shows that there is a statistically significant difference in
housing & infrastructure investments across private non-life insurance companies. The result of Tukey’s HSD post hoc analysis finds that twelve mean comparisons are significantly different. These are between Bajaj General and Royal General (0.000), Chola MS General and Royal General (0.000), HDFC General and Royal General (0.000), ICICI General and Royal General (0.000), IFFCO General and Royal General (0.000) and Reliance and Royal (0.000), Bajaj General and TATA general (0.049), Chola MS General and TATA General (0.000), HDFC General and TATA General (0.007), ICICI General and TATA General (0.005), IFFCO General and TATA General (0.002) and finally Reliance General and TATA General (0.002).

- Approved & other investments by private non-life insurance companies have shown substantial fluctuation during 2002-03 to 2014-15. These investments show negative movement for Bajaj General, ICICI General, IFFCO General, Royal General, and finally TATA General. Chola MS General, HDFC General and Reliance General have shown positive movement. The result of one-way ANOVA indicates that there is a statistically significant difference in approved & other investments across private non-life insurance companies. Examination of the Tukey’s HSD post hoc analysis reveals that statistically significant difference exist between nine mean comparisons which are Bajaj General and TATA General (0.000), Chola MS General and TATA General (0.000), HDFC General and TATA General (0.000), ICICI General and TATA General (0.000), IFFCO General and TATA General (0.000), Reliance General and TATA General (0.000), ICICI General and Royal General (0.036), IFFCO General and Royal General (0.006), and finally Reliance General and Royal General (0.026).

6.2.2 Findings related to Insurance Investment Regulation and Investment Pattern of Private Insurance Sector

In this section findings related to comparison of government securities investments; housing & infrastructure investments; and approved & other investments of private life insurance sector in pre and post insurance investment (amendment) regulation 2008 are presented. This section also covered findings related to comparison of government securities investments; housing & infrastructure investments; and approved & other investments of private non-life sector in pre and
post insurance investment (amendment) regulation 2008. Data pertaining to private life and non-life insurance sector consists of all companies operating in India during 2001-02 to 2014-15.

**Life Insurance Companies**

- It is found that private life sector has invested more in government securities in pre regulatory framework than post regulatory framework. Mean government securities investments of private life insurance sector is 33.942 per cent in pre regulatory framework and 15.633 per cent in post regulatory framework. However, the result of paired sample t test shows that there is no significant difference in government securities investments of private life insurance sector during pre and post regulatory framework.

- Private life sector investments in housing & infrastructure are little bit more in pre regulatory framework as compared to post regulatory framework. Its mean investment in housing & infrastructure is 9.289 per cent in pre regulatory framework and 4.388 per cent in post regulatory framework. The paired sample statistic shows that there is no significant difference in housing & infrastructure investments of private life insurance sector during pre and post regulatory framework.

- Mean investment of private life insurance sector in approved & other investments is 57.010 per cent in pre regulatory framework and 79.976 in post regulatory framework which indicates that they have invested less in this category of investment in pre regulatory framework than post regulatory framework. However, according to the result of the paired sample t-test analysis, no significant difference exist in approved & other investments of private life insurance sector during pre and post regulatory framework.

**Non-Life Insurance Companies**

- Private non-life sector investments in government securities are higher in pre regulatory framework as compared to post regulatory framework. Its mean investment in these securities is 43.348 per cent in pre regulatory framework and 34.679 per cent in post regulatory framework. The result of the paired sample t-test analysis reveals that there is significant difference in government
securities investments of private non-life insurance sector during pre and post regulatory framework.

- It is found that private non-life sector has invested less in housing & infrastructure in pre regulatory framework than post regulatory framework. Mean investment of private non-life insurance sector in housing & infrastructure is 23.730 per cent in pre regulatory framework and 30.466 per cent in post regulatory framework. The result of the paired sample t-test analysis reveals that there is significant difference in housing & infrastructure investments of private non-life insurance sector during pre and post regulatory framework.

- Mean investment of private non-life insurance sector in approved & other investments is 32.904 per cent in pre regulatory framework and 34.852 per cent in post regulatory framework which indicates that private non-life sector has invested less in this category of investment in pre regulatory framework than post regulatory framework. However, the result of the paired sample t-test analysis shows that there is no significant difference in approved & other investments of private non-life insurance sector during pre and post regulatory framework.

### 6.2.3 Findings related to Investment Efficiency of Private Insurance Companies

The investment efficiency evaluation of the sample private life and non-life insurance companies has been carried out with the help of DEA. In this section findings related to the investment efficiency evaluation of the sample private life and non-life insurance companies are presented.

**Life Insurance Companies**

- In case of CRS, investment efficiency of private life insurance industry has shown an increasing trend from 2002-03 to 2014-15. Average efficiency score was as high as 0.864 in 2014-15 and in 2002-03 it was as low as 0.473. Aviva Life scored highest rank in OTE with mean efficiency score estimated to be 0.879 and HDFC Life scored lowest rank in OTE with mean efficiency stood at 0.575. It can be observed from the table 6.31 that five private life insurers show efficiency score in between 0.75 to 1; and seven private life insurers report efficiency score in between 0.50 to 0.75 on CRS. Hence, five (41.66%)
private life insurers are found to be investment efficient out of twelve private life insurers.

- In case of VRS, average efficiency score has increased from 0.836 in 2002-03 to 0.938 in 2014-15 which shows an upward trend in investment efficiency of private life insurers. Aviva Life scored highest rank as mean efficiency stood at 0.980 and Birla Life scored lowest rank as mean efficiency stood at 0.721. It is found that ten private life insurers show efficiency score in between 0.75 to 1 and rest are placed under 0.50 to 0.75. Therefore, ten (83.33%) private life insurers are investment efficient out of twelve private life insurers.

- Average scale efficiency score has increased from 0.566 in 2002-03 to 0.923 in 2014-15 which reflects an improvement in investment efficiency of private life insurers. Met Life scored highest rank in scale efficiency as average efficiency score stood at 0.928 while ICICI Life scored lowest rank as average efficiency score is estimated to be 0.705. In case of scale efficiency, it is found that eleven private life insurers fall under 0.75 to 1. It is important to note that eleven (91.66%) private life insurers are investment efficient out of twelve private life insurers.

- During all years under study, most of private life companies have marked decreasing return to scale except in the year 2010-11 when no private insurer depicted decreasing return to scale. Decreasing return to scale reveals that increase in output has been less than proportionate increase in input. However it is important to note that in year 2010, 2011 and 2014, good number of insurers depicted increasing return to scale which reveals increase in output has been more than proportionate increase in input.

**Non-Life Insurance Companies**

- Average overall technical efficiency score has increased from 0.185 in 2002-03 to 0.828 in 2014-15 which exhibits an increasing trend in investment efficiency of private non-life insurance companies. Reliance General got highest mean efficiency stood at 0.907 and HDFC General scored lowest mean efficiency stood at 0.758. It is found that all non-life insurers show investment efficiency score in between 0.75 to 1. Therefore, all private non-life insurers are efficient
• In case of VRS, investment efficiency of private non-life insurance industry has shown an increasing trend from 2002-03 to 2014-15. Average efficiency score was as high as 0.974 in 2014-15 and in 2002-03 it was as low as 0.704. ICICI General scored highest mean efficiency stood at 0.982 and Royal General got lowest mean efficiency stood at 0.878. Furthermore, it is found that all non-life insurers show investment efficiency score in between 0.75 to 1 and all private non-life insurers are efficient.

• Average scale efficiency score was 0.228 in 2002-03 and 0.930 in 2014-15 which exhibits an improvement in investment efficiency of private non-life insurance companies. Reliance General got highest mean scale efficiency score stood at 0.962 and lowest mean efficiency score stood at 0.796 reported by HDFC General. It is found that all non-life insurers show investment efficiency score in between 0.75 to 1 and all private non-life insurers are efficient.

• During all the years under study, maximum insurers have marked increasing return to scale except in the year 2002-03 when no private insurer depicted increasing return to scale. However insurers also revealed decreasing return to scale except 2005-06 and 2007-08.
### 6.1 Summary of Hypotheses Testing

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Hypotheses</th>
<th>Research Technique</th>
<th>Inference</th>
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<tr>
<td>1</td>
<td>H01: There is no significant difference in investment pattern across private life insurance companies.</td>
<td>One way ANOVA</td>
<td>P value (.000) &lt; 0.05 (Significant)</td>
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<td></td>
<td>H01.1: There is no significant difference in government securities investments across private life insurance companies.</td>
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<td>H01.2: There is no significant difference in housing &amp; infrastructure investments across private life insurance companies.</td>
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<td>H01.3: There is no significant difference in approved &amp; other investments across private life insurance companies.</td>
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<tr>
<td>2</td>
<td>H02: There is no significant difference in investment pattern across private non life insurance companies.</td>
<td>One way ANOVA</td>
<td>P value (.006) &lt; 0.05 (Significant)</td>
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<td></td>
<td>H02.1: There is no significant difference in government securities investments across private non life insurance companies.</td>
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<td></td>
<td>H02.2: There is no significant difference in housing &amp; infrastructure investments across private non life insurance companies.</td>
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<tr>
<td></td>
<td>H02.3: There is no significant difference in approved &amp; other investments across private non life insurance companies.</td>
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<tr>
<td>3</td>
<td>H03: There is no significant difference in investment pattern of private life insurance sector in pre and post insurance investment regulation.</td>
<td>Paired sample t test</td>
<td>P value (.062) &gt; 0.05 (Insignificant)</td>
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<td></td>
<td>H03.1: There is no significant difference in government securities investments of private life insurance sector in pre and post insurance investment regulation.</td>
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<td>H03.2: There is no significant difference in housing &amp; infrastructure investments of private life insurance sector in pre and post insurance investment regulation.</td>
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<td>H03.3: There is no significant difference in approved &amp; other investments of private life insurance sector in pre and post insurance investment regulation.</td>
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<td>Hypothesis</td>
<td>Description</td>
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<td>233</td>
<td>$H_0$: There is no significant difference in investment pattern of private non-life insurance sector in pre and post insurance investment regulation.</td>
<td>$H_0.1$: There is no significant difference in government securities investments of private non-life insurance sector in pre and post insurance investment regulation.</td>
<td>Paired sample t test</td>
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<td></td>
<td>$H_0.2$: There is no significant difference in housing &amp; infrastructure investments of private non-life insurance sector in pre and post insurance investment regulation.</td>
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<td>$H_0.3$: There is no significant difference in approved &amp; other investments of private non-life insurance sector in pre and post insurance investment regulation.</td>
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<tr>
<td>4</td>
<td>$H_0$: Private life insurance companies are not investment efficient.</td>
<td>$H_0.1$: Private life insurance companies are not investment efficient on constant return to scale.</td>
<td>Data Envelopment Analysis</td>
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<td></td>
<td>$H_0.2$: Private life insurance companies are not investment efficient on variable return to scale.</td>
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<td>$H_0.3$: Private life insurance companies are not investment efficient on scale efficiency measure.</td>
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<tr>
<td>5</td>
<td>$H_0$: Private non-life insurance companies are not investment efficient.</td>
<td>$H_0.1$: Private non-life insurance companies are not investment efficient on constant return to scale.</td>
<td>Data Envelopment Analysis</td>
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<td></td>
<td>$H_0.2$: Private non-life insurance companies are not investment efficient on variable return to scale.</td>
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<td></td>
<td>$H_0.3$: Private non-life insurance companies are not investment efficient on scale efficiency measure.</td>
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Source: Developed on the basis of the results of the test undertaken
6.3 Conclusion

The Indian insurance industry has passed through the most radical phases and witnessed extraordinary developments and innovations. One such development is the improving role of insurance sector in financial intermediation. Insurance companies have been emerged as strong financial intermediary and play a significant role in bringing stability into financial system and efficiency in resource allocation. The study is analytical and fact finding in nature that analyzes the investment pattern and investment performance of private insurance sector in detail. The study contributes to the empirical literature on investment pattern and investment performance in three ways. Firstly, it analyzes investment pattern of private life and non-life insurance companies regulation wise i.e., it analyzes investment pattern in terms of government securities investments, housing & infrastructure investments, and approved & other investments. Secondly, it examines investment pattern of private life and non-life insurance sector in pre and post insurance investment (amendment) regulation 2008 which has been neglected by earlier studies. Lastly, it contributes to the literature by assessing investment performance of private life and non-life insurance companies.

One way ANOVA is used to measure investment pattern of both private life and private non-life insurance companies which show a significant difference in investment pattern. These significant differences are attributable to the difference in their firm characteristics, investment expertise and corporate governance structure & processes. Therefore, it can be concluded that even though insurance companies have to comply with the investment ceiling prescribed by the regulations, they have their own investment philosophy and investment style. The study further reveals that private life insurance companies’ investments in government securities and housing & infrastructure investments have been declined while approved & other investments have been increased over the years. These trends are observed due to the introduction of ULIPs. ULIPs funds have no mandate investment limit for investments in government securities and housing & infrastructure investments which warrants freedom to insurance companies while investing. However at least 75 per cent of ULIPs fund should be in approved investments. Insurance companies generally do not prefer to take risk from life fund, but from ULIPs they prefer to make more investment in risky assets which shows their risk taking interest. Housing & infrastructure investments have declined mainly due to the reason that infrastructure
projects initially tend to have poor credit ratings and are unlikely to have a strong dividend payment record, hence can’t come under approved investments. But later these projects are more profitable but insurance companies can’t take advantage of it. Another reason for these trends is introduction of new classes of securities under ambit insurance investment and relaxed investment regulation. Private non-life insurance companies’ investments in government securities have been decreased while approved & other investments and housing & infrastructure investments have been improved over the study period. This is mainly because of emergence of new classes of securities and relaxed investment regulation over the years. Non-life insurance companies prefer invest in other classes of securities because of many reasons: low real rate of return on the government securities and introduction of new kind of securities.

Private life insurance sector has made more investments in government securities and housing & infrastructure in pre regulatory framework while approved & other investments have increased in post regulatory framework. The major reason behind these trends is introduction of ULIPs which set no mandate investment limit for investments in government securities and housing & infrastructure. Another reason behind these trends is amended investment regulation which warrants freedom for private life insurance companies to adopt new classes of securities rather than traditional type securities. The study also reveals that private non-life insurance companies investments in government securities have declined while approved & other investments and housing & infrastructure investments have increased in post regulatory framework. It shows that non-life insurance companies prefer to invest in some new classes of securities because of many reasons. These are amendments in insurance investment regulation, introduction of new classes of securities, and low real rate of return on the government securities. Non-life insurance companies have great deal of uncertainty on the timing of most of their liabilities and unexpected large claim may force them to sell investment at short notice, possibly at loss. Insurers therefore need to make investments in liquid and high income generating securities. Investments in housing & infrastructure projects and approved & other investment yield greater return than government securities.

To analyze investment efficiency of private life and private non-life insurance companies, the technique of DEA is used which exhibits an improvement in
Investment efficiency over the years. Investment efficiency of private life and private non-life insurance companies has improved over the years which shows that insurers are now focusing on earning income along with safety. In order to become more efficient in the coming future, private insurance companies should give proper attention on scale efficiency along with managerial efficiency.

6.4 Suggestions

6.4.1 Suggestions for Insurance Companies

It is generally perceived that insurance companies’ investment portfolio is determined by the regulations and they do not have enough space to perform their investment functions. However, the study finds that investment pattern of private insurance companies differs. This shows that insurance companies have their own investment style & philosophy and they have imperative role to play in their asset management. Investment efficiency of private insurance companies has been improved over the years. This can be seen in the findings relating to investment efficiency of insurance companies on constant return to scale, variable return to scale and scale efficiency measures. The study offers some suggestions for insurance companies, these are:

- Insurance companies should have a pool of investment managers and trustees with a deep reservoir of skill sets. Insurance companies should not be overlook regulatory constraints and investment managers have to naturally do a ‘tight ropewalk’ and still end up successful. With product proliferation and increased competition in the investment market, it is not easy for insurance companies to compete without continuous improvement in skill of asset allocation, portfolio design and investment research. Investment managers should put their acumen to ensure that investments should be made in a profitable manner. Insurance companies should painstakingly select persons to the investment committee and assess board-led governance processes. Capacity building needs to take place across the board to enable fund managers, compliance officers, and risk administrators to enhance their skills and deliver improved returns to investors. Besides, a successful investment portfolio entails high degree of involvement and use of the actuarial science. Thankfully, the actuarial resources in India are progressively seeing a gigantic development over the
last couple of decades. Actuarial skills would go far in handling the complexities related to insurance investments.

- Investment performance is a critical success factor since it affects the whole performance of business management. Insurers must sustain their relative efficiency because declining profit could cause serious business failure. Investment performance extends the ability of an insurer to deliver higher rate of return to its policy owners and shareholders. Good investment performance can enhance its competitive position. Fortunately, investment efficiency of private life and private non-life insurance companies has been improved over the years. It is hence very important for the insurance firms to keep up their investment performance and try to improve it further.

- In spite of the fact that the primary objective of insurers is to fulfill their obligation, they cannot disregard the significance of maximizing returns without undermining the credit quality of the portfolio. Insurers could maximize their efficiency if proper investment strategies are adopted. Therefore, investment portfolio of insurance companies should be diligently built up. They should estimate the risks and future expected return of various asset classes in which they are going to invest. Good asset management could generate higher returns adding to the bottom line of the firm. It might likewise prompt the insurer to handle higher insurance exposure.

- There has to be a clearly defined policy for the insurer’s management and its board for reviewing the investment management process. It should cover periodically written portfolio reviews including a discussion of the investment portfolio’s results, its compliance to investment guidelines and its risk position.

- Insurance companies should rigorously design their risk management framework. They generally confront two major risks: underwriting risk and investment risk. Insurance companies have to diversify investments in order to minimize risk. More investment risk in their investment portfolio ordinarily brings about higher expected returns but it also tends to increase their asset-liability mismatch thereby imperiling future insurance benefits. Insurance companies should invest according to risk/return objectives reasonably suited to them. Insurance investment managers should invest only in those assets
whose risk they can appropriately identify, measure, manage, monitor, control and report. They should conduct extensive analysis into investment risk issues and design investment risk parameters. Insurance companies should do exhaustive work on risk-predictive and risk-mitigation models. They can partially curtail risk by investing in commodities, derivatives and inflation-indexed bonds.

- Proper reporting of diverse aspects of insurance business to the regulator is of vital significance especially in areas that are strictly mandated. There should be timely divulgence of the particulars by insurance companies to enable the regulator to analyze the composition of their investments. Disclosure of information would also empower policyholder and shareholders to deliberately make their decisions. The investment committees of the insurers should bear out that there is not the slightest chink hole in the timely reporting of their investment activities.

- The nature of the funds’ flow in insurance business essentially creates demand for investment of such funds in highly profitable manner and claims those come up for payments must be regarded. On the other hand, the nature of the business implies that the availability of funds is not at the helm of insurers because it is subject to the payment of premiums by the policyholders regularly. As such, the asset liability management calls for exactitude because life and general insurance businesses are influenced by ALM risks on a potentially bigger scale because of liquidity risk. Scrimpy liquid assets to meet cash flow requirements could cause forceful selling of securities which adversely impact the profitability. There is nothing termed as a perfect ALM. The mismatch is undoubtedly being there, but it's the accountability of insurers to measure the risk and report the investment team of the probable risk or liabilities. The investment team should appropriately identify securities matching these potential liabilities. Insurers should ensure that adequate sum is put into liquid assets to meet any commitments.

6.4.2 Suggestions for the Regulator

In India, there are extensive regulations governing investment pattern of insurance companies. There are quantitative investment limit for investment in certain classes of securities. These restrictions seem to suppress insurance companies from
realization of their potential and adopting a more risky investment strategy. Also, exiguous supply of assets averts investment in those securities. The study finds that insurance companies’ investment in government securities has been come down which shows their inclination towards securities with attractive risk/return profile. The IRDAI investment regulations 2008 & 2013 include new classes of securities under ambit of insurance investment and there are some important guidelines on insurance business in general and ULIP business in particular. So, relaxed regulation could improve investment portfolio of insurance companies. Therefore, the following suggestions are made by the researcher for the regulator:

- There should be freedom for insurance companies to invest in broad range of securities i.e. additional equities, derivatives (including futures, options and credit default swaps), alternatives (private equities, venture funds and hedge funds), real estate and infrastructure projects. But insurance companies are unable to make investments in some highly profitable projects because they do not come under approved investments.

- Regulator should permit insurance companies to put a higher percentage of their investible funds in securities with credit rating below AAA. At present, regulatory guidelines mandated that at least 75% of debt instruments, excluding government and other approved securities, shall have an AAA or equivalent credit rating. Because of this condition, insurance sector exposure to infrastructure projects gets confined to only AAA paper, most of which are issued by public sector companies. Insurance sector has the ability to invest in long dated bonds, albeit they are below the desired credit rating. There are some projects which become unprofitable in initial stage but highly profitable in later stage like infrastructure projects, venture funds etc. But, they do not come under approved investment. The study suggests that ambit of approved investments should be enlarged.

- At present, insurance companies can’t invest more than 10% in any single company. The regulator should rethink the applicability of this condition in the current environment, especially when the current shallow market does not provide enough space for large investors to invest elsewhere profitably.

- It is apparent that the era of directed investments is over and the time has come to hunt down new paradigms. Investment philosophy relating to the
insurance business has to shift to the prudent person rule. Nevertheless, it must be kept in mind that such a big shift cannot happen without risks and due consideration has to be taken while proceeding to this new investment regime. The reason behind this measure is simple. The study after reviewing various literatures feels that the concern for preserving the investors’ capital should stay vital in any case but not at the cost of abrading their real returns. Indians parting their savings with insurance should get a positive real rate of return. Individuals save in their working years so that a fund is accessible to finance consumption during years spent in retirement. Getting a marginal addition to the original corpus is injustice to the investors.

- Customers should have adequate, accurate and reliable information accessible in the public domain which they can use to compare and take a good decision before selecting any insurance fund. It is vital for the regulator to ensure adequate and timely disclosure of information.

- As a precautionary measure, the regulator should set down rules and standards concerning fit and appropriate persons that can be designated to the investment committee and stipulate specified guidelines on the broad principles of the administration processes, including risk management and risk mitigation. This should take into account knowledge, expertise and experience of the person being appointed to the committee.

- Existing regulations and guidelines restrict insurance companies from investing in equity and debentures of private limited companies. This rule might have had some rationale before but in the present scenario it looks illogical. Most infrastructure projects are managed by private limited companies. These firms are termed as Special Purpose Vehicles (SPVs) which is expected to lend funds for projects in the airports, roads and tourism sector. Consequently, these remain out of the investment realm of insurance companies. This rule, therefore, has to be scrapped or modified.

- There is a great need to develop corporate bonds market in India particularly long term debt market. Life insurance companies have huge amount of funds to be invested in long term due to long term nature of their policy liabilities. But there is a lack of long-term instrument in corporate bond market. The majority of corporate bond are presently available with maturity of 2-5 years.
while life insurance companies would like to invest for duration of 10 years or more. Therefore, insurance companies are not getting enough space available for investments in Indian bond market in the context of IRDA’s current regulatory framework. Therefore, government should take initiatives to resolve the outstanding issue to develop corporate bond market. Lastly, issuers of corporate debt abstain from disclosing information unless requested with regard to borrowing program. Every company should publish a borrowing calendar in the same way the government reports its borrowing schedule. This would help companies to plan the cash flows. Also such disclosure will promote good corporate governance.

- In India, it is mandatory for insurance companies to have an in-house investment team. The major drawback of this is for smaller companies with smaller fund size which might not have expertise to the level that is really required. So it could have been easier to access outside fund managing expertise. Fund management is a very specialized job and needs experts to understand various facets of asset management. Increased competitive pressure, regulatory limits, accounting standards and new class of risks are generating tremendous pressure on fund managers. Therefore, outsourcing of investment functions can enable insurance companies to achieve considerable cost saving. Indian insurers need to think of improving fund management skills and efficiency by many fold or to resort the support of a third party asset management company. As a result, an outsourcing of investment function is more expedient alternative for many insurers. If external fund management arrangement is carefully selected, it will give smaller insurers sufficient investment proficiency and expertise at a reasonable cost.

6.5 Direction for Future Research

The present study is an attempt to analyze investment pattern of private life and private non-life insurance companies in India. The study is also made an honest attempt to evaluate investment efficiency of private life and non-life insurance companies in India. Although, the present study has contributed significantly, it has simultaneously opened new frontiers for future research. There are various research issues which have not been addressed in this study and need further investigation. Some of the issues that have forward for future research are as follows:
The study considers the classification of the investment pattern according to investment regulation (government securities, housing & infrastructure investment, and approved & other investment). However, research can also be conducted on different categorization such as security wise classification (equities, debentures, mutual funds etc.), duration wise classification (long term investments and short term investments) and classification according to stakeholders (shareholders’ investments and policyholders’ investments).

The area of research may also include the determinants of investment pattern which are not touched in this thesis such as impact of firm specific factors (firm size, leverage, liquidity, profitability and reinsurance) and macro-economic factors (inflation, interest rate, capital market condition and tax policies).

The study considers investment pattern, investment regulation and investment efficiency only in context of India. A cross country comparison of investment pattern, investment regulation and investment efficiency can also be carried out.