CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The globalisation of the financial services and liberalisation of the economy have led to far-reaching changes in the Indian insurance market in the recent years. Insurance business is one of the fastest emerging financial services, especially in a developing economy like India in terms of the geographical area and the huge population it serves. Indian insurance industry is a growth oriented industry and has witnessed an array of changes in the past two decades. Because of internationalisation of activities, radical changes are taking place in the insurance sector like appearance of new risks, new types of covers, unconventional and innovative product ideas, strategic marketing, fast servicing, up-gradation of information technology etc.

Competition in the insurance sector has increased due to new approaches, technical know-how, global experience and expertise. The new players have secured a part of the untapped market by offering innovative products and services at affordable prices. The insurance market has moved from a static to a dynamic situation. The customer is the focus in case of any service industry and in case of insurance, financial stake of both the customers and the sellers is high. Now, customers are well aware of their increased power in respect of their rights and remedies, availability of grievance redressal mechanisms, detariffication i.e. free pricing of insurance products etc.
Insurance fulfils functions differently than other financial services. It has specific contributions to the economic growth process as well as to the well being of the poor. It contributes to economic growth by improving the investment climate and promoting a more efficient mix of activities because of risk management instruments. The availability of insurance enables risk avoiding individuals and entrepreneurs to plunge into highest risk-return activities which they would avoid in the absence of insurance mechanism. This promotes higher productivity and growth of the economy. On the investment front too, insurers serve as the institutional investors of a country providing capital and infrastructure and other long term investments as they have long term nature of liabilities, maximum reserves and predictable premiums. However, this is possible if the insurance companies invest a substantial portion of their portfolios domestically.

No doubt, expanding cross border trade and investment are the key drivers of insurance growth but this also requires an actively built consumer confidence in the regulatory and supervisory infrastructure of emerging insurance markets. The gains of L-P-G i.e. liberalisation, privatisation and globalisation in insurance may be short lived if there is inappropriate emphasis on concurrent development of regulation, prudential supervision and self-regulation. There is a substantial potential for insurance to make a greater contribution to economic growth and social welfare in developing nations.1

India is one of the fastest growing economies in the world. The Gross Domestic Product growth rate in 2009-10 was 7.4 percent, which was higher than
the growth rate of 6.7 percent in the previous year i.e. 2008-09. The services sector contribution to GDP registered 8.3 percent growth. Even during the global economic crisis that began in 2008, non-life insurance sector was not significantly impacted. The non-life insurance sector witnessed a marginal growth of 1.6 percent during 2009 but Indian performance ranks better when compared to the global non-life premium which contracted by 0.1 percent during the same period. However, the share of Indian non-life insurance premium in global non-life insurance premium remained very low at 0.46 percent only. India ranks 26th in global non-life insurance premium. This is quite unacceptable for a country like India that enjoys wide geographical coverage and also occupies second position in the world in respect of population.

**Table 1.1:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Insurance Penetration*</th>
<th>Insurance Density**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Non-life</td>
</tr>
<tr>
<td>1999</td>
<td>1.93</td>
<td>0.54</td>
</tr>
<tr>
<td>2000</td>
<td>2.32</td>
<td>0.55</td>
</tr>
<tr>
<td>2001</td>
<td>2.71</td>
<td>0.56</td>
</tr>
<tr>
<td>2002</td>
<td>3.26</td>
<td>0.67</td>
</tr>
<tr>
<td>2003</td>
<td>2.88</td>
<td>0.62</td>
</tr>
<tr>
<td>2004</td>
<td>3.17</td>
<td>0.65</td>
</tr>
<tr>
<td>2005</td>
<td>3.14</td>
<td>0.61</td>
</tr>
<tr>
<td>2006</td>
<td>4.80</td>
<td>0.60</td>
</tr>
<tr>
<td>2007</td>
<td>4.70</td>
<td>0.60</td>
</tr>
<tr>
<td>2008</td>
<td>4.60</td>
<td>0.60</td>
</tr>
<tr>
<td>2009</td>
<td>5.20</td>
<td>0.60</td>
</tr>
</tbody>
</table>

**Source:** Swiss Re, Sigma Volumes from 2001 to 2010.

**Notes:**
1. *Measured as ratio of Premium to Gross Domestic Product (In percentage)
2. **Measured as a ratio of premium to total population (In USD)
3. Data relates to calendar years.
Table 1.1 shows that the insurance penetration of life sector in India during the post reform period has increased significantly from 1.39 percent to 4.60 percent, while for the non-life sector it has marginally increased from 0.55 percent to 0.60 percent only. During the same period, the insurance density has significantly increased for life insurance sector from USD 6.1 to USD 47.7. In case of non-life sector too, insurance density has increased from USD 2.4 to USD 6.7 during the post reform period. Keeping in mind, the rising Gross Domestic Product and ever increasing population in India, the insurance penetration and insurance density are very low. Even the insurance penetration and insurance density of India are quite low compared to most other Asian countries and the world average as evident from tables 1.2 and 1.3. It seems that the reforms have failed to fulfil their objectives. However, low insurance penetration and insurance density indicates huge market potential and hence offers good business prospects to a number of foreign and private companies who have already invested or are eager to invest in the Indian insurance sector.
Table 1.2
Comparison of Insurance Density of India with Other Asian Countries and World Average (in USD)

<table>
<thead>
<tr>
<th>Year</th>
<th>India</th>
<th>Bangladesh</th>
<th>Hongkong</th>
<th>Japan</th>
<th>Malaysia</th>
<th>Pakistan</th>
<th>P.R. China</th>
<th>Singapore</th>
<th>S. Korea</th>
<th>Sri Lanka</th>
<th>Taiwan</th>
<th>Thailand</th>
<th>Asia</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>2.4</td>
<td>0.6</td>
<td>257.0</td>
<td>805.5</td>
<td>62.3</td>
<td>1.6</td>
<td>5.0</td>
<td>271.2</td>
<td>262.3</td>
<td>5.9</td>
<td>273.7</td>
<td>19.4</td>
<td>40.4</td>
<td>151.9</td>
</tr>
<tr>
<td>2000</td>
<td>2.3</td>
<td>0.6</td>
<td>269.1</td>
<td>808.2</td>
<td>64.6</td>
<td>1.6</td>
<td>5.7</td>
<td>234.2</td>
<td>298.5</td>
<td>5.7</td>
<td>319.7</td>
<td>19.4</td>
<td>40.9</td>
<td>145.5</td>
</tr>
<tr>
<td>2001</td>
<td>2.4</td>
<td>0.6</td>
<td>295.5</td>
<td>701.1</td>
<td>68.7</td>
<td>1.5</td>
<td>7.8</td>
<td>245.9</td>
<td>296.7</td>
<td>6.1</td>
<td>327.6</td>
<td>23.1</td>
<td>37.6</td>
<td>158.2</td>
</tr>
<tr>
<td>2002</td>
<td>3.0</td>
<td>0.6</td>
<td>345.2</td>
<td>714.7</td>
<td>79.3</td>
<td>1.7</td>
<td>9.2</td>
<td>300.6</td>
<td>337.8</td>
<td>7.1</td>
<td>354.1</td>
<td>21.3</td>
<td>39.7</td>
<td>175.6</td>
</tr>
<tr>
<td>2003</td>
<td>3.5</td>
<td>0.7</td>
<td>348.7</td>
<td>768.0</td>
<td>87.2</td>
<td>1.8</td>
<td>11.2</td>
<td>320.3</td>
<td>369.4</td>
<td>7.9</td>
<td>383.1</td>
<td>27.6</td>
<td>43.3</td>
<td>202.5</td>
</tr>
<tr>
<td>2004</td>
<td>4.0</td>
<td>0.8</td>
<td>332.9</td>
<td>830.8</td>
<td>93.2</td>
<td>2.2</td>
<td>12.9</td>
<td>365.5</td>
<td>412.5</td>
<td>9.4</td>
<td>414.4</td>
<td>41.4</td>
<td>47.1</td>
<td>220.0</td>
</tr>
<tr>
<td>2005</td>
<td>4.4</td>
<td>0.8</td>
<td>331.7</td>
<td>790.4</td>
<td>95.3</td>
<td>2.8</td>
<td>15.8</td>
<td>392.0</td>
<td>495.5</td>
<td>12.8</td>
<td>446.4</td>
<td>44.4</td>
<td>48.3</td>
<td>219.0</td>
</tr>
<tr>
<td>2006</td>
<td>5.2</td>
<td>0.8</td>
<td>341.3</td>
<td>760.4</td>
<td>103.0</td>
<td>3.6</td>
<td>19.4</td>
<td>392.0</td>
<td>591.2</td>
<td>14.7</td>
<td>550.3</td>
<td>50.0</td>
<td>50.4</td>
<td>224.2</td>
</tr>
<tr>
<td>2007</td>
<td>6.2</td>
<td>0.9</td>
<td>380.8</td>
<td>736.0</td>
<td>110.6</td>
<td>3.9</td>
<td>25.5</td>
<td>341.2</td>
<td>727.3</td>
<td>19.3</td>
<td>646.4</td>
<td>58.9</td>
<td>54.1</td>
<td>264.2</td>
</tr>
<tr>
<td>2008</td>
<td>6.2</td>
<td>1.1</td>
<td>381.3</td>
<td>829.2</td>
<td>119.5</td>
<td>4.0</td>
<td>33.7</td>
<td>341.2</td>
<td>727.3</td>
<td>19.3</td>
<td>646.4</td>
<td>58.9</td>
<td>54.1</td>
<td>264.2</td>
</tr>
<tr>
<td>2009</td>
<td>6.7</td>
<td>1.3</td>
<td>417.5</td>
<td>840.4</td>
<td>115.0</td>
<td>3.6</td>
<td>60.4</td>
<td>417.5</td>
<td>709.7</td>
<td>17.7</td>
<td>494.8</td>
<td>62.7</td>
<td>62.8</td>
<td>253.9</td>
</tr>
</tbody>
</table>

Source: Swiss Re Sigma Volumes from 2000 to 2010.
Note: Data relates to calendar years.
### Table 1.3
Comparison of Insurance Penetration of India
With Other Asian countries and World Average (in percentage):

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>0.53</td>
<td>0.55</td>
<td>0.56</td>
<td>0.67</td>
<td>0.67</td>
<td>0.65</td>
<td>0.61</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>0.22</td>
<td>0.21</td>
<td>0.18</td>
<td>0.18</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Hongkong</td>
<td>1.09</td>
<td>1.12</td>
<td>1.21</td>
<td>1.45</td>
<td>1.50</td>
<td>1.39</td>
<td>1.29</td>
<td>1.20</td>
<td>1.20</td>
<td>1.30</td>
<td>1.40</td>
</tr>
<tr>
<td>Japan</td>
<td>2.30</td>
<td>2.22</td>
<td>2.21</td>
<td>2.22</td>
<td>2.20</td>
<td>2.25</td>
<td>2.22</td>
<td>2.20</td>
<td>2.10</td>
<td>2.20</td>
<td>2.10</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1.72</td>
<td>1.59</td>
<td>1.80</td>
<td>1.97</td>
<td>2.05</td>
<td>1.88</td>
<td>1.82</td>
<td>1.70</td>
<td>1.50</td>
<td>1.50</td>
<td>1.60</td>
</tr>
<tr>
<td>Pakistan</td>
<td>0.37</td>
<td>0.37</td>
<td>0.38</td>
<td>0.39</td>
<td>0.39</td>
<td>0.43</td>
<td>0.40</td>
<td>0.50</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
</tr>
<tr>
<td>P.R. China</td>
<td>0.61</td>
<td>0.67</td>
<td>0.86</td>
<td>0.96</td>
<td>1.03</td>
<td>1.05</td>
<td>0.92</td>
<td>1.0</td>
<td>1.1</td>
<td>1.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Singapore</td>
<td>1.03</td>
<td>1.02</td>
<td>1.17</td>
<td>1.43</td>
<td>1.50</td>
<td>1.48</td>
<td>1.48</td>
<td>1.10</td>
<td>1.5</td>
<td>1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>S. Korea</td>
<td>2.89</td>
<td>3.16</td>
<td>3.38</td>
<td>3.38</td>
<td>3.86</td>
<td>2.77</td>
<td>2.98</td>
<td>3.20</td>
<td>3.60</td>
<td>3.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>0.71</td>
<td>0.68</td>
<td>0.67</td>
<td>0.74</td>
<td>0.74</td>
<td>0.77</td>
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<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>Taiwan</td>
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<td>2.29</td>
<td>2.60</td>
<td>2.81</td>
<td>3.02</td>
<td>3.07</td>
<td>2.93</td>
<td>2.9</td>
<td>2.8</td>
<td>2.9</td>
<td>3.0</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.97</td>
<td>1.00</td>
<td>1.08</td>
<td>1.15</td>
<td>1.19</td>
<td>1.58</td>
<td>1.62</td>
<td>1.60</td>
<td>1.5</td>
<td>1.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Asia</td>
<td>1.71</td>
<td>1.76</td>
<td>1.76</td>
<td>1.80</td>
<td>1.77</td>
<td>1.79</td>
<td>1.67</td>
<td>1.60</td>
<td>1.60</td>
<td>1.50</td>
<td>1.60</td>
</tr>
<tr>
<td>World</td>
<td>2.95</td>
<td>2.96</td>
<td>3.15</td>
<td>3.38</td>
<td>3.48</td>
<td>3.43</td>
<td>3.18</td>
<td>3.0</td>
<td>3.1</td>
<td>2.9</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Source: Swiss Re Sigma Volumes from 2000 to 2010.
Note: Data relates to calendar years.
1.2 INSURANCE SECTOR REFORMS IN INDIA - A BRIEF OUTLINE

The general insurance business in India began with the Triton Insurance Co. Ltd., the first general insurance company established in the year 1905, in Calcutta by the British. In 1907, the Indian Mercantile Insurance Company Limited was set up. In 1928, the Indian Insurance Companies Act was enacted to collect statistical information about insurance business. After this, the Insurance Act of 1938 was passed for safeguarding the interests of the insuring public. Again in 1957, General Insurance Council framed a code of conduct for ensuring fair conduct and sound business practices. Then in 1968, the Insurance Act was amended to regulate investments and set minimum solvency margins. Tariff Advisory Committee (TAC) was also set up in the same year. In 1972, the General Insurance Business Nationalisation Act was passed to nationalise general insurance business.

In 1991, after the announcement of the New Industrial Policy, insurance was still a state monopoly. With pressure from the opposition, the government, in 1993, decided to set up a committee to enquire into the state of affairs of the insurance sector. In 1993, the Malhotra Committee, headed by former Finance Secretary and Reserve Bank of India Governor, Sri R.N. Malhotra, was formed, to evaluate the Indian insurance industry and to recommend its future direction. In 1994, the Committee submitted its report and emphasised that in order to improve the customer services and to increase the insurance coverage, the industry should be opened up to competition. But, at the same time, the
committee felt that there had to be a machinery to safeguard the interest of the public investors as any mistake could ruin the public confidence in the industry. For this purpose, the Malhotra Committee recommended the setting up of an independent regulatory body named Insurance Regulatory and Development Authority (IRDA).

The IRDA Bill was passed in the Parliament in December, 1999 and the IRDA was incorporated in April, 2000, which has opened the insurance sector for private participation. The IRDA registers the new insurance companies and frames regulations to be followed by the insurance companies.

As on 31st August, 2010 there were twenty-five (25) general insurance companies operating in the country. The list given below shows how quickly the private sector has jumped into insurance business in India:

I. PUBLIC GENERAL INSURANCE COMPANIES

a) National Insurance Co. Ltd.,(1906)
b) New India Assurance Co. Ltd.,(1919)
c) United India Insurance Co. Ltd.,(1938)
d) Oriental Insurance Co. Ltd.,(1947)

II. PRIVATE GENERAL INSURANCE COMPANIES

a) Royal Sundaram Alliance Insurance Co. Ltd. (23.10.2000)
c) IFFCO Tokio General Insurance Co. Ltd. (04.12.2000)
d) Tata AIG General Insurance Co. Ltd. (22.01.2001)
e) Bajaj Allianz General Insurance Co. Ltd. (02.05.2001)
f) ICICI Lombard General Insurance Co. Ltd. (03.08.2001)
g) Cholamandalam MS General Insurance Co. Ltd. (15.07.2002)
h) HDFC ERGO General Insurance Co. Ltd. (27.08.2002)
i) Future Generali India Insurance Co. Ltd. (04.09.2007)
j) Universal Sompo General Insurance Co. Ltd. (16.11.2007)
k) Shriram General Insurance Co. Ltd. (08.05.2008)
l) Bharti AXA General Insurance Co. Ltd. (27.06.2008)
m) Raheja QBE General Insurance Co. Ltd. (15.12.2008)
n) SBI General Insurance Co. Ltd (15.12.2009)
o) L & T General Insurance Co. Ltd. (09.07.2010)

III. SPECIALISED INSURERS (PUBLIC)
a) Agricultural Insurance Co. of India Ltd. (20.12.2002)
b) Export Credit Guarantee Corporation Ltd. (27.08.02)

IV. STAND ALONE HEALTH INSURERS (PRIVATE)
a) Star Health and Allied Insurance Co. Ltd. (16.03.2006)
b) Apollo Munich Health Insurance Company Ltd. (03.08.07)
c) Max Bupa Health Insurance Company Limited (15.02.2010)
V. RE-INSURER (PUBLIC)

a) General Insurance Corporation of India (with effect from Dec. 2000, a national re-insurer)

After the entry of private sector a lot of changes have taken place in the realm of insurance industry. No doubt the gross direct premiums have increased but the increase is not commensurate with the economic growth of the country and has far more potential to grow.

1.3 REVIEW OF LITERATURE:

Various studies have been carried out both at the national and international level relating to different aspects of insurance and its reforms. Most of them relate to the effects of globalization, opportunities and challenges faced by insurance sector, appraisal of public sector companies, role of Insurance Regulatory and Development Authority etc. There is an intensive range of articles, books, journals and other available study materials relating to the insurance sector in India. Some of the studies that have been reviewed by the researcher are as follows:

Arora (1988), in his study conducted a quantitative analysis of GIC’s investment policy, in consonance with government guidelines and as laid down in the Insurance Act, 1938. The study revealed that GIC’s investment policy not only maximised its investment income, safety and liquidity but was also consistent with national objectives and priorities.3

Rai (1996), in his article examined the cost efficiency of insurance firms located in 11 countries over a five year period i.e. from 1988-1992. In the study
two x-efficiency measures were calculated, one from stochastic cost frontier model and two others from the distribution free model. The results vary not only for countries but also by size and specialisation. Firms in Finland and France have the lowest x-inefficiency, while firms in UK had the highest. Small firms on an average were more efficient than large firms worldwide. Also firms offering single or specialised services were more cost-efficient than those offering both (life and non-life) services.

Rao (1998), in his paper examined the efficiency of LIC on the basis of physical and financial parameters. According to his study there had been a good improvement in the physical performance of LIC but financial performance was not up to the mark. The reasons put forward for limited financial performance were statutory regulations, government control, high costs of transacting rural business etc.

Esipov and Vaysburd (1999), in their working paper, have analysed selected dynamic investment strategies of insurance companies with a unifying theoretical framework. They have applied Kolmogorov-type partial differentiation equation for profit and loss distribution of strategies contingent on the current value of the basic asset as well as on a balance of a trading account. Using the equation, they have built a dynamic efficient frontier and have demonstrated that an attempt to minimise variance for a given expected profit leads to a better trading strategy. Similar analysis has also been performed for Constant Proportion Portfolio Insurance (CPPI). It is shown that both dynamic efficient frontier and CPPI belong to a special class of power option replicating
strategies. A special part of the strategy is devoted to discrete analysis and risk capital consideration for non-replicating strategies.6

Forbes (2000), in his paper, emphasised upon the importance of excellent customer service in the insurance industry. He stressed that it was difficult to render outstanding customer service on the part of a company and needed long time and perseverance to be achieved. Companies have to lay down mechanism for this by introducing new products, processes and delivery channels.7

Verma (2000), in her thesis, conducted a performance evaluation of the GIC and its subsidiary companies using trend analysis, averages and graphs. The study threw light on the probable impact of various insurance sector reforms on the development of insurance business. The study emphasised upon the role of GIC and its subsidiary companies as a powerful insurance institution and as an investor. According to the study, underwriting results were in the form of losses except in the year 1993-1994 and the main reason for this was high operating expenses and incurred claims.8

Mathur (2001), in his paper, stressed on the importance of regulation in insurance in India. The paper highlights the need for regulatory principles of insurance sector in respect of market supervision and solvency requirements of insurance companies. The study reveals that world insurance is basically dominated by industrially developed economies. The study suggests that in India, IRDA has to be more concerned with the entry guidelines and capital requirement rather than the regulatory details of market supervision in the beginning.9

Rudolf (2001), in his paper, stressed that underwriting results and investment incomes were the two key factors in determining profitability of
general insurance companies. The study was conducted in respect of seven countries for the period 1996-2000. The results indicate that except Japan and Germany other countries had underwriting losses and profitability was high in U.K., moderate in Canada and U.S. and low in France and Germany. The conclusion of the study was that underwriting results and investment incomes are negatively correlated and that an insurance company should focus on the underwriting results to increase profits as investment incomes are uncertain.10

Srivastava and Srivastava (2001), made an attempt to trace the growth of insurance industry in India, to examine its existing structure and explore its potential in the backdrop of liberalized scenario. The study is diversified encompassing the relation between insurance services and economic development, role of state in regulating insurance activities, prospects of insurance industry compared to other countries, marketing strategies, product designing, product pricing, tariff structure, reinsurance and risk management.11

Gupta (2003), in his paper, highlighted the importance of brand differentiation among insurance companies. According to his study, claims settlement, service quality and security of investments were the most important factors affecting customer’s perception.12

Verma (2003), in his research paper, pointed out the problems faced by insurers in respect of auto (motor) insurance market and suggested measures to turn this loss making portfolio into a profitable one. The study found that although motor portfolio was the biggest cash-earning portfolio yet it was prone to huge underwriting losses. At the same time, there were allegations against the insurance companies that they earn a lot on the investment on policyholder’s
funds and hence are capable of honouring the claims. The study also threw light on the aspects that in this respect the new private companies in India are cautious and avoid motor insurance of commercial and old vehicles.13

**Ahuja (2004)**, in his working paper, has stressed on the importance of Community Based Health Insurance (CBHI) especially the Universal Health Insurance Scheme, recently launched by the Government of India. The study explores, how insurance sector reforms alter health insurance prospects for the poor in India and what is likely to happen as a result insurance sector reforms. The study states that the development of private health insurance market will provide greater insurance coverage to the poor sections of the society. Insurance sector reforms can affect the poor through their impact on the provision of health insurance services used by the low-income people as well through its access to financing of health care. The study concludes that CBHI has an important role to play and hence should be encouraged by the Government of India through necessary intervention and insurance companies should also be reined by the government to serve low income population.14

**Uppal (2004)**, in his research paper, undertook a comparison of the profitability of five major bank groups in the post liberalisation period. The time period for the study was 1997-2001 and the comparison was done on the basis of ten parameters by using mean, SD, co-efficient of variation, correlation and co-efficient matrix to find out the effect of each variable on group profitability. The results of the study were that savings deposits and credit deposit ratio had a positive impact on profits but the burden of priority sector credit and fixed

14
deposits ratio has a negative impact. The profitability of public sector banks were lower as compared to foreign banks and new private banks.\textsuperscript{15}

\textbf{Banu (2004)}, in an article, analysed the current and future standards of service prevailing in the non-life insurance sector in India. The author broadly classified the services in the non-life sector into five categories as product based, people based, client based, personal needs based and business needs based. He used various management tools like six sigma, SWOT Analysis, Service Quality Model (SERVQUAL) etc. to justify the customer service standards.\textsuperscript{16}

\textbf{Gopal (2005)}, in his article has given an overview of insurance in the pre-liberalisation era in India and narrates the growing significance of customer relationship management (CRM) with the liberalisation and globalisation of insurance sector. The article discusses the various CRM strategies that are in place and suggests a few that could be implemented which include campaign management in retail insurance, top-down CRM etc.\textsuperscript{17}

\textbf{Jampala, Rajesh and Rao (2005)}, in their case study assert that in insurance sector, the Key Success Factors (KSF) are product benefits, competitive premiums, products/plan differentiations through promotions and claims settlements. Claim settlement is the major success factor for the success of LIC. According to the study, the claim settlement operations are transparent and fair as the corporation looks for reasons to settle claims rather than to avoid making payments on claims.\textsuperscript{18}

\textbf{Sinha (2005)}, in his research paper, presented a study on the growth of the banking sector in India and lack of co-ordination between banks and insurance regulations, bad loans and problems of overstaffing in bancassurance
which had created confusions in implementation of bancassurance in Indian
banks. The paper highlights the reasons why banks are entering into
bancassurance and finally describes a model for banks to enter into the insurance
industry.\textsuperscript{19}

\textbf{Sinha (2005)}, in his paper throws light on the prospects and challenges of
Indian insurance industry. It provides an overview of the Indian insurance sector,
highlights the phenomenal growth experienced recently and benchmarks the
Indian insurance market against other regional counterparts. On the basis of
insurance penetration, insurance density and other variables it can be shown that
while India is still an underdeveloped insurance market yet it has a huge catch-up
potential. The paper also contains a detailed dissection of current regulatory
issues, bancassurance and detariffication in detail. The study also summarises the
potential and pitfalls of rural insurance in India. The study suggests that insurance
companies should target the vast sector of rural population in India for their
overall development.\textsuperscript{20}

\textbf{Sinha (2005)}, in his working paper, has projected India as a global
economic power and an attractive insurance market. This paper examines the
insurance industry in India before independence, highlights the importance of
rural sector and the role played by privatisation in the Indian insurance market.
Based on economic estimates, the paper provides projections of statements of the
insurance market for the year 2025.\textsuperscript{21}

\textbf{Sharma(2005)}, in his thesis, attempted to study the contribution of
general insurance in the industrial development of India with special reference to
the north eastern region. According to his study general insurance has contributed
a lot for industrial development of north-east and has far more potential to do so.\textsuperscript{22}

\textbf{D. Chenappa (2006),} compared the premium collection and growth of various public and private sector insurance companies to study the result of liberalization of India's insurance sector. However, growth of premium is not the sole criteria for determining the status of the insurance companies and there could have had been other criteria as well which could be taken into consideration. The comparative premium structure of the companies revealed a lot of regression.\textsuperscript{23}

\textbf{Kasturi (2006),} in an article, focused on the performance management system of insurance companies. According to the study the success of an insurer depends upon identification of markets, assessment of risks, market penetration, control over operating costs and investments. The financial parameters used for measuring the performance of a company were net premiums, underwriting results, return on investment, return on equity etc. The non-financial parameters included were growth in the number of policies, market share, branch network, claims processing speed, timely reminder to customers, number of dropouts from the policies, growth in product line, customer satisfaction, research and development, etc.\textsuperscript{24}

\textbf{Sandhu and Bala (2006),} in their article, reviewed some studies on different aspects of life insurance like customer services, services marketing, problems and privatisation of life insurance sector. The study revealed that scope of life insurance had increased in the post-liberalisation period and further study was imperative on other aspects like role of IT, bancassurance, and Customer Relationship Management (CRM) in the life insurance sector.\textsuperscript{25}
**Goldfarb (2006)**, in his article introduced risk adjusted performance measurement for P&C (Property and Casualty) insurance companies. Risk Adjusted Return on Capital (RARC) is one of the methods used in the study to evaluate the performance of insurance companies. The method begins with the development of an aggregate firm wide risk profile and uses various risk measures to identify how much of the firm's capital was at risk. Apart from highlighting the level and sources of risk in the firm, the measure of risk capital was allocated to various business units or activities and then used to compare relative performance or to guide pricing decisions.

**Sekar (2006)**, in his article, used balanced scorecard system to evaluate the performance of insurance companies. The balanced scorecard was used to measure performance on the basis of financial values (cost efficiency, investment return, underwriting results, premium growth, profits etc.), internal business processes (business process, underwriting process, innovation, CRM process etc.), customer (market share, customer satisfaction, customer retention etc.), learning and growth (claims management skills, financial skills, marketing skills and underwriting skills etc.).

**Capgemine and EFMA (2007)**, threw light upon the key features of insurance business viz. customer centricity, enabled distribution networks, implementation of multi-channel strategies, updating technology and improving operational efficiency. An insurance company had to reposition itself in respect of the above areas to be able to profitably sustain in the market.

**Sinha (2007)**, made an in-depth study about the penetration level of general insurance in India in respect of technical and scale efficiency and total
factor productivity in a three-output, three-input framework for the years 2003-04 and 2004-05, by using Data Envelopment Analysis and Malmquist Total Factor Productivity Index. According to his study, public sector dominate the private sector insurance companies in terms of mean technical efficiency in terms of constant returns to scale, while the private sector insurance have a slightly higher mean technical efficiency in terms of variable returns to scale.29

Sethu (2007), in his paper, studied the impact of privatisation and globalisation on general insurance business. According to his study, the private companies have defied the basic objectives of insurance i.e. to promote social security keeping in view the principles of equity and natural justice. The private companies have mainly concentrated on creamy layer of insurance portfolios and have been involved in unethical practices to earn more business. The public sector companies who are functioning according to insurance principles are unable to compete with the private companies because of this and also due to huge operating expenses on account of massive staff strength, weak technology etc.30

Jampala and Rao (2007), conducted a study on the various distribution channels used for selling life insurance. They concluded that LIC could not benefit much from these new distribution channels while private sector players reaped the advantage of this new mechanism. Hence, it is imperative for LIC to use these new channels effectively to increase its business coverage.31

Banga (2007), in his thesis, attempted to examine the effectiveness of marketing strategies, customer satisfaction level, product management and distribution strategies of insurance companies. He found that while planning a
product these factors were very important to be considered. He concluded that private companies provide better services to their customers and stressed on the proper training of the employees and agents working with the insurance companies. He also urged the insurance companies to redraw their marketing practices.\textsuperscript{32}

\textbf{Pal and Malik (2007),} investigated the reasons for financial differences of public sector, private sector and foreign banks in India on the basis of profitability, risk, liquidity and efficiency. Multinomial regression analysis was used on the sample of 74 banks for the period from the year 2000 to 2005. The results from the study indicated that foreign banks had better performance than public and private sector banks operating in India.\textsuperscript{33}

\textbf{Ahmed (2008),} has made a comparative study of various public and private life insurance companies in India in respect of marketing strategies. He concluded that private life insurance companies had better marketing strategies than the public companies.\textsuperscript{34}

\textbf{Devarakonda (2008)} in his article focused on the new insurance intermediaries for marketing insurance products. The study covers all the prospective vehicles for distribution of insurance products viz. online social networks, mallassurance, bancassurance, online sales brokers etc.\textsuperscript{35}

\textbf{Oetzel and Ghosh (2008),} in their paper, tried to find out the relationship between market liberalisation and performance in sixteen emerging economies of Latin America and Asia including India. The variable used for measuring the firm's performance was adjusted profits (profits before taxes/total firm's assets). The findings of the study were that liberalisation was positively related with
firm's profits and there were no significant profitability differences between local and foreign companies, while US owned subsidiary companies had significantly less profits than the subsidiaries of other countries.\textsuperscript{36}

\textbf{Gosalia (2008),} in his study involves an analysis of financial performance of non-life insurance sector in India using financial ratios such as claims ratio, combined ratio, return on equity ratio, capacity ratio etc. and other measures such as net premium earned, operating profits, profits after tax, equity share capital and reserves etc. The study also to a very limited extent examines the compliance of IRDA norms by the insurance companies in respect of solvency margins and rural and social sector obligations. The study concludes that private insurers are growing aggressively at a very fast rate and posing a serious problem for the public players who are still dominating because of their already existing large base.\textsuperscript{37}

\textbf{Sinha (2008),} states that general insurance industry is the backbone of a country's risk management system. According to his analysis, their participation in financial market evens out fluctuations and provides liquidity in the market. He analyzed the insurance scenario in three aspects i.e. pre-nationalization, nationalization and privatization. The role of insurance during these three periods has been studied with reference to various angles like socio economic development of the country, risk management, customer services and the like.\textsuperscript{38}

\textbf{Rachappa (2008),} examined the trends and progress evaluation of life insurance sector in India. The study is an exhaustive one covering all the aspects of life insurance.\textsuperscript{39}
Singh (2008), has written a thesis on the relationship of general insurance companies with their customers and how to improve such relations.40

Rao (2008), in an article has written about the detariffication of insurance industry which was introduced in 2007. According to him introduction of health insurance policies with higher covers of insurance for rural and social sector provides opportunities for utilizing the untapped market in India. After the process of privatization, the insurance sector has undergone gradual metamorphosis which has changed the whole scenario. This study pointed that detarrification has decreased the role of the erstwhile most powerful authority Tarriff Advisory Committee more commonly known as T.A.C. which was entrusted the duty of determining the premium tariff of the various public as well as private insurance companies.41

Siddiqui (2009), in his paper presents an overview of the present position of life insurance sector in India and studies various economic indicators related to life insurance companies operating in India viz. market share, insurance penetration, equity share capital, premium earned, profit and loss etc. The paper summarises that LIC is the only life insurer in India that is fairly settled. The paper suggests that improvement in insurance penetration and insurance density is required by creating new products, conducting consumer awareness campaigns and market research, spreading insurance education through universities and colleges, efficient and effective grievance redressal mechanisms, fair trading practices and transparent disclosure norms while addressing the policyholders.42

Ronay and Oztaysi (2009), in their paper have used balanced scorecard technique and Analytical Network Process (ANP) to measure the performance of
three insurance companies in Turkey. Firstly, a questionnaire was prepared on the basis of financial issues, customer issues, internal business processes and learning and growth. Finally, by using the selected criteria and sub-criteria an ANP model is designed. The results indicated that financial perspective is not enough to explain an insurance company's performance and internal business process perspective have a considerable effect on performance.\textsuperscript{43}

\textbf{Sinha (2009)} in his research paper compared ten general insurance companies in terms of technical efficiency for the years 2003-04, 2004-05 and 2005-06 using the slacks and super-efficiency model in Data Envelopment Analysis. The results indicated a decline in mean technical efficiency in 2004-05 compared to 2003-04 but an upsurge again in 2005-06. According to the study, two companies namely Reliance General Insurance Company Limited and New India Assurance Company Limited occupied the top two slots for all the years under observation.\textsuperscript{44}

\textbf{Kumar (2010)}, in his thesis, conducted a performance evaluation of general insurance companies in the post-reforms period up to the year 2007-2008 on the basis of profitability, efficiency and service quality offered to the customers. The analysis has been done using mean, median, standard deviation, multivariate profitability analysis, SERVQUAL scale, data envelopment analysis, Cronbach's Alpha test (for testing the reliability of customer perceptions regarding service quality) etc. The study states that insurance industry has recorded profound growth owing to liberalisation, privatisation and globalisation but the reforms have adversely affected the underwriting results. Although liberalisation has inculcated efficiency in case of public insurers but private
insurers are trying to reduce the gap fast by providing better service quality to their customers.45

Eling and Luhnen (2010) in their paper have provided new empirical evidences on frontier efficiency measurement in the international insurance industry. The study contains a broad efficiency comparison of 6462 insurers of 36 countries. Different countries, organisational forms and company sizes are compared considering life and non-life insurers. The study detects a steady technical and cost-efficiency growth in international insurance market from 2002-03 with large differences across countries. Denmark and Japan have highest average efficiency whereas Phillipines is the least efficient. Regarding organisational form, the results claim that mutual fund companies are more efficient than stocks due to higher agency cost of stock markets.46

Cumminns, Weiss, Xie and Zi(2010), in their paper investigate the economies of scope in the US insurance industry over the period 1993-2006. In their paper, they have tested the conglomeration hypothesis which holds that firms can optimise by diversifying across businesses against the strategic focus hypothesis which holds that firms can optimise by focusing on core business. They have analysed whether it is advantageous for insurers to offer both life-health and property-liability insurance or to specialise in one industry segment. The study estimates cost, revenue and profit efficiency utilising Data Envelopment Analysis and test for scope of economies by regressing efficiency scores as control variable. The conclusion of the study is that strategic focus is superior to conglomeration in the insurance industry.47
Singh and Kumar (2011), in their research paper have compared the efficiency and productivity of public sector general insurance companies in the pre and post reform periods using Data Envelopment Analysis. The pre-reform period has been taken from the year 1993-94 and the post-reform period has been taken from 2000-01 to 2007-08. The results indicate that the efficiency of the public sector general insurance companies is higher in the post-reform period compared to the pre-reform period.48

The Malhotra Committee Report (1993), which gives an idea of the proposed reforms in insurance sector, is the backbone of this study as it proposed the privatization of insurance sector and framed rules and other recommendations relating to the same. The committee highlighted the fact that in order to improve the customer services and to increase the coverage of insurance, the insurance industry should be opened up to competition. Many newspaper articles have from time to time provided valuable information about insurance. Besides, the textbooks published by National Insurance Academy, Pune also offer a good deal of information about insurance. The Journal, published by the Insurance Institute of India, Pune which is a remarkable publication in the field of insurance has also been a valuable source on literature review as it contains articles on all the latest developments in the field of insurance. At the same time, the IRDA Journal, and ICFAI Press books and journals on Insurance, which contain a lot of articles and valuable information on insurance, have been referred to. The various legislations viz. Insurance Act (1938), Life Insurance Corporation Act (1956), General Insurance Business Nationalisation Act (1972) and Insurance
Regulatory and Development Authority Act (1999) have also been reviewed to have a full view of the changes in the insurance sector.

Research Gap:

In spite of vast literature available on insurance, there still exists a gap which offers further scope for research. As for example, sufficient studies have been made on marketing of insurance products, growth of premium, impact of insurance on socio-economic development of the country, life insurance, customer satisfaction, productivity of insurance companies, investment portfolios etc. Very little research work till now on the impact of reforms in general insurance sector taking the parameters like Gross Direct Premium, Underwriting Results, Incurred Claims, Market share, Operating Expenses, Net Retention, Net Investment Income, Net Earnings, Product Development, Rural and Social Sector Obligations and Efficiency Analysis of Insurance companies before and after reforms. The present study is undertaken with a view to fill up this gap and to study the effect of reforms on general insurance in India taking these parameters. Hence, the need for the study can be justified.

1.4 SIGNIFICANCE OF THE STUDY:

The reforms in the Indian insurance sector have led to significant changes not only in the industry but in the economy as a whole. The insurance market has been converted from a seller’s market to a buyer’s market. With the entry of private and foreign players the market has become dynamic and fiercely competitive. The insurance companies are witnessing a paradigm shift in terms of
various performance parameters, customer services, use of information technology, advanced marketing strategies, deeper market penetration, customer-specific products, social welfare obligations and so on.

A decade of the post-reforms period is over and at this point of time it is quite significant to acknowledge the impact of reforms on the public sector companies. The study will not only help in determining the comparative status of public sector companies before and after reforms but will also help in analysing the relative status of public companies against the private companies. Also, this is high time to judge the performance of private sector companies who are new in the field and hence demand special attention and performance analysis. It makes sense to find out their position in the industry and their market position vis-a-vis the public sector, who have been the market leaders for long in the Indian insurance market. The study thus seeks to review the reforms and their impact on the general insurance industry and to find out whether the reforms have positively contributed towards growth of the industry. Hence, the research titled, “A Study on the Impact of Reforms in General Insurance Sector in India”, is important to evaluate the performance of general insurance companies, public as well as private, in the post-reform period and their contribution to social growth and development.

1.5 OBJECTIVES OF THE STUDY:
For the research study, the following objectives have been set:

   a) To study the pre-reform scenario of general insurance in India.
b) To analyse the factors that were responsible for bringing reforms in general insurance sector.

c) To compare the pre-reform and post-reform performance of public sector general insurance companies.

d) To evaluate the performance of both public and private sector general insurance companies in the post-reform period.

1.6 HYPOTHESES:-

To achieve the objectives of the study, following hypotheses have been formulated:

a) There is no significant difference in the pre-reform and post-reform performance of public sector general insurance companies

b) There is no significant difference between the performance of public sector and private sector general insurance companies in the post-reform period.

c) The overall efficiency of general insurance sector has improved after reforms.

1.7 PERIODICITY OF STUDY:

The insurance sector reforms were initiated in the year 2000. The study covers a period from 1993-1994 to 2009-2010 which is divided into two era for the study, called pre-reform period (from 1993-1994 to 1999-2000) and post-reform period (from 2000-2001 to 2009-2010). The justification for taking only
seven years of the total pre-reform period is that required data is not available for the whole pre-reform period (from 1972 to 2000).

The comparative performance analysis of public and private sector general insurance companies during post-reform period is done for the period from the year 2002-2003 to 2009-10. The beginning years of the reform period have not been considered for the period of analysis as the private sector general insurance companies selected for study had just begun functioning in India and hence the comparison of their performance in the preliminary years with the public sector general insurance companies is not justifiable.

1.8 RESEARCH METHODOLOGY:-

a) Universe of study:

As on 31st August, 2010 there were four public sector general insurance companies (excluding General Insurance Corporation of India and the two specialised insurers) and fifteen private sector general insurance companies (excluding three stand-alone health insurers) operating in India. The universe of the study is comprised of all these four public sector and fifteen private sector general insurance companies.

b) Sample units of study:

For the study, the following four public sector and six private sector companies were purposively selected:

Public Companies:

1. National Insurance Company Ltd.
2. New India Assurance Company Ltd.
3. Oriental Insurance Company Ltd.
4. United India Insurance Company Ltd.

**Private Companies:**

1. Royal Sundaram Alliance Insurance Co. Ltd.
2. Reliance General Insurance Co. Ltd.
3. IFFCO Tokio General Insurance Co. Ltd.
4. TATA AIG General Insurance Co. Ltd.
5. Bajaj Allianz General Insurance Co. Ltd.
6. ICICI Lombard General Insurance Co. Ltd.

The justification for taking up only six private sector companies out of fifteen is that these companies had started business in India during the early part of reforms. They also enjoy a considerable market share. Other companies which have not been selected are relatively new and it will be unjustified to compare the business done by them in the preliminary years with older companies. Moreover, if all the private companies are selected, then the results of techniques like Data Envelopment Analysis and Mann Whitney Tests may be misleading. However, for general analysis on insurance density, insurance penetration, product development, rural and social sector obligations etc. information from all existing public as well as private general insurance companies is used in the study.

c) **Type of data:**

Data for the study pertains to the following parameters:

1. Gross Direct Premium
2. Underwriting Results Ratio
3. Incurred Claims Ratio
4. Market share
5. Operating Expenses Ratio
6. Net Retention Ratio
7. Net Investment Income Ratio
8. Net Earnings Ratio
9. Product Development
10. Rural and Social Sector Insurance.

d) Sources of data: -

Data have been collected from primary as well as secondary sources. But the study is mainly based on secondary sources. The primary sources are the people from the insurance industry who were interviewed by the researcher during the study. The secondary sources which have been resorted to are available literature on the subject of general insurance, annual reports of the general insurance companies, IRDA annual reports, Swiss-re Sigma publications, official records of insurance companies, journals related to insurance, economic newspapers, text books on insurance, internet websites etc.

e) Tools of analysis:-

For the first two objectives, narrative analysis has been done and where necessary the analysis is substantiated with the help of quantitative and financial data. For the rest two objectives, the data/information are being calculated in the form of ratios and tabulated followed by analysis. The statistical tools that have been used for analysis and hypotheses testing are Mean, Mann Whitney Test and Data Envelopment Analysis. These are described below:
MEAN:

The mean has been calculated using the given formula:

\[ \text{Mean}(x) = \frac{\sum x}{N} \]

where, \( \sum \) = symbol for summation  
\( x \) = observations  
\( \sum x \) = sum of the series of observations  
\( N \) = number of observations

MANN WHITNEY TEST:

This test was developed by H. B. Mann and R. Whitney in the 1940’s. This test is used to examine whether two samples have been drawn from populations with same locations i.e. mean. It is an alternative to a t-test for testing the equality of means of two independent samples. The application of a t-test involves the assumption that samples are drawn from a normal population. If the assumption of normality is violated then Mann Whitney test, a powerful non-parametric test is used as an alternative.

For applying the test, at first values of \( U_1 \) and \( U_2 \) are derived with the help of the following formula:

\[ U_1 = n_1 \cdot n_2 + \frac{n_1}{2}(n_1 + 1) - R_1 \]

and,

\[ U_2 = n_1 \cdot n_2 + \frac{n_2}{2}(n_2 + 1) - R_2 \]

where, \( n_1 \) and \( n_2 \) = sample sizes
$R_1 =$ the sum of ranks assigned to the values of the first sample.

$R_2 =$ the sum of ranks assigned to the values of the second sample.

Thereafter the value of test statistic $Z$ is derived. Assuming the level of significance as equal to $\alpha$, if the absolute sample value of $Z$ is greater than the absolute critical value of $Z$, the null hypothesis that the samples come from identical populations is rejected. *At five percent level of significance, the critical value of $Z$ for a two tailed test is 1.96.* Also, a significant difference between $R_1$ and $R_2$ implies a significant difference between the samples.

In the study, since the population distribution is skewed (i.e. not a normal distribution) and data samples are independent, t-test cannot be applied to find out whether there is a significant difference between the performance of general insurance companies. To overcome the underlying assumption of normality, Mann Whitney i.e. Rank Sum Test (two-tailed) has been applied at five percent level of significance. Calculations for the Mann Whitney test have been done using SPSS software.

**DATA ENVELOPMENT ANALYSIS:**

Data Envelopment Analysis is a non-parametric alternative to the econometric approach which builds on the pioneering work of Farrell, 1957. It is used to measure the technical efficiency of a firm i.e. a Decision Making Unit (DMU), here the insurance company. It was first introduced by Charnes, Cooper and Rhodes (CCR) into the Operations Research literature in 1978 but the CCR
model was applicable only to technologies characterised by constant returns to scale (CRS) globally. In 1984, there was a major breakthrough by which the CCR model was extended by Banker, Charnes and Cooper (BCC) to accommodate technologies that exhibit variable returns to scale (VRS). In subsequent years, various methodological contributions from a large number of researchers have further led to development of the technique. DEA has emerged as a valid alternative to regression analysis for efficiency measurement. DEA uses linear programming to find out the efficiency and productivity of any DMU.

In DEA, a benchmark technology is constructed from the observed input-output bundles of the firms in the sample. DEA uses a frontier efficiency methodology for evaluating the relative efficiency of a DMU with multiple inputs and outputs. The DEA approach forms the efficiency frontier by piece-wise linear stretches and forms a convex production possibility set. Every production activity that belongs to the frontier is defined as efficient, while those lying below are said to be inefficient. The technique involves measuring the performance of each firm in the industry relative to ‘best practice’ efficient frontier consisting of the dominant firm in the industry. The resulting efficiency scores may vary from 0 to 1. Fully efficient firms have a score equal to 1 and inefficient firms have a score between 0 and 1.

It is very difficult to choose suitable inputs and outputs for conducting efficiency analysis, especially in case of service sector, here insurance. In case of service sector, output is intangible and is difficult to determine. Hence, while undertaking efficiency measurement of insurance companies the vital question
that comes up is that what should be the inputs and outputs? This is because results can be misleading if inputs and outputs are not selected properly.

So far as outputs are concerned, majority of the efficiency studies have used non-investment related premium income as proxy for outputs even though premiums are really a form of revenue that is price times quantity rather than a count of output units. In this study net earned premiums have been used as proxy for outputs.50

When it comes to the choice of inputs, there is a general agreement that labour (administrative, managerial and sales) and capitals are the main input resources utilised in the production of insurance.51 Hence, operating expenses (including commission) and equity share capital (including reserves and surplus) of general insurance companies have been selected as proxy for inputs.

**Technical Efficiency (under Constant Returns to Scale):**

Technical Efficiency of a given firm is defined as the ratio of the input usage of a fully efficient firm producing the same output vector to the input usage of the firm under consideration.52 Technical efficiency refers to the ability of a productive unit to reduce all variable inputs to produce a given level of output or to expand all variable outputs for the given inputs.53 A firm can be output maximiser or a cost/input minimiser. In the output maximisation approach, the firm is believed to maximise outputs given the inputs.

A producer is technically efficient, if an increase in any output requires a reduction in at least any other output or an increase in at least one input.54 If a firm
uses excessive inputs or produces little outputs then the firm is considered technically inefficient as it deviates from the 'best technology'.

Technical efficiency is again sub-divided into:

1) Pure Technical Efficiency (under Variable Returns to Scale),

2) Scale Efficiency.

**Pure Technical Efficiency (under VRS):**

Pure Technical efficiency i.e. efficiency relative to a variable returns to scale (VRS) frontier. Pure technical efficiency is the proportion by which a firm could reduce its input usage by implementing the best technology portrayed by the variable returns to scale frontier. It measures the extent to which a firm can either decrease its inputs or increase its output in fixed proportion while still remaining with the variable returns to scale frontier.

**Scale Efficiency:**

Scale efficiency is the extent to which a firm can reduce inputs by moving to a part of the frontier with more beneficial returns to scale characteristics. Due to difference in Constant Returns to Scale and Variable Returns to Scale a few inefficient DMU’s on CRS may turn out to be efficient on VRS. Scale efficiency is the distance between the VRS frontier and CRS frontier. Scale efficiency is described as the ratio of Technical efficiency (CRS) to Technical efficiency (VRS). If the resultant ratio is equal to one then the firm exhibits constant return to scale. But, if the ratio is less than one then the firm exhibits variable return to scale, which may be increasing or decreasing.
Returns to scale:

The term returns to scale is used in respect of a firm’s production function. It refers to changes in the output resulting from a proportionate change in all inputs. If the increase in the output is by the same proportion as the increase in inputs then it is a case of ‘Constant Returns to Scale’ (CRS). If the change in output is more or less than the proportionate change in inputs then it is a case of ‘Variable Returns to Scale’ (VRS). If increase in output is less than the proportionate increase in inputs then it is a case of ‘Decreasing Returns to Scale’ (DRS). If output increases by more than proportionate increase in inputs then it is a case of ‘Increasing Returns to Scale’ (IRS). The study measures the technical efficiency of general insurance companies under both CRS and VRS.

In the study Data Envelopment Analysis has been applied to conduct performance efficiency analysis of public and private sector general insurance companies in the post-reform period. It is not possible to apply Data Envelopment Analysis to compare the efficiency of public sector general insurance companies, before and after reforms because there were only four public sector general insurance companies operating in India before reforms and Data Envelopment Analysis cannot be applied for such a small number of firms and if applied the results may be misleading. Hence, Data Envelopment Analysis has been used to calculate the efficiency in performance of public sector and private sector general insurance companies in the post-reform period only.
1.9 LIMITATIONS OF THE STUDY:

Any research study cannot be perfect in all respects and the present research study too suffers from certain limitations. The following are the limitations of the present study:

1. The study excludes the impact of reforms on general insurance sector after the year 2009-2010.

2. The study does not incorporate the impact of reforms on all the private sector general insurance companies.

3. The study also does not incorporate the impact of reforms on General Insurance Corporation of India (re-insurer) and two specialised public sector general insurance companies namely Export Credit Guarantee Corporation Limited and Agricultural Insurance Company Limited because of their specialised nature of business.

4. The study is based mainly on secondary sources and hence the study carries all the limitations inherent with the secondary data.

5. The study does not include the impact of reforms on the service quality of insurance companies, from customer’s point of view.

1.10 CHAPTER PLAN OF STUDY

The study has been divided into five chapters as follows:

**Chapter 1:** Introduction

**Chapter 2:** Development of General Insurance in India

A: Historical Perspective

B: Growth in General Insurance Business (up to 2000)

C: Reforms in General Insurance Sector
1.11 EXPLANATION OF KEY-TERMS USED:

1. **Claims settlement**: Claim settlement is the most important activity in insurance business. The simple reason why people insure themselves or their property is claims, in case loss arises. An insurance company's reputation is evaluated by its ability to redeem its promise of being there when the customer needs it the most i.e. when they submit their claims for the risks chosen. The performance of the insurance sector in terms of claims settlement can be measured by calculating Incurred Claims Ratio which is the ratio of Claims Incurred (Net) to the Net Earned Premium.

2. **Detariffication**: Since past five decades, tariff rates of insurance were administered by Tariff Advisory Committee (T.A.C.). With the beginning of the year 2007, the non-life companies are free to choose their premium rates for all products (except motor third-party liability) on the basis of market forces. At present, Tariff Advisory Committee has been designated by IRDA as the data repository for the general insurance industry. Other than mandatory Motor Third Party Liability (MTPL) insurance, all classes of business have been detariffed as follows:
3. **General insurance sector**: It is the insurance sector that provides insurance coverage for all risks related to property, tangible or intangible. It may also be called non-life insurance sector. General insurance may be further classified into three groups:-

   a) **Fire** i.e., dealing with fire related risks.

   b) **Marine** i.e., dealing with transport related risks and ships.

   c) **Miscellaneous** i.e., dealing with motor, crop, liability, personal accident etc. As per the Insurance Act, all types of general insurance other than fire and marine insurance are covered under miscellaneous insurance.

4. **Insurance sector reforms**: There were two phases of reforms in general insurance sector in India. Firstly, in the year 1972, when the General Insurance Business Nationalization Act was passed in order to nationalize the general insurance business in the country. Prior to this there was no government control or regulation in respect of general insurance in India.

   Secondly, the reforms were initiated in the year 2000 (on the recommendation of the Malhotra Committee) for liberalising the general insurance business. The Insurance Regulatory Development Authority Act was
passed in the year 1999. Private companies (with or without foreign participation of not more than 26 percent) were allowed to transact insurance business in India from the financial year 2000. At the same time, in the public sector, the four subsidiaries of General Insurance Corporation (GIC) namely National Insurance Company Limited, Oriental Insurance Company Limited, United India Insurance Company Limited and New India Assurance Company Limited were delinked and given independent status. General Insurance Corporation of India continued as national Re-insurer. The present research study is only in respect of the impact of reforms that began in the general insurance sector in India, in the year 2000.

5. **Performance of insurance companies:** The performance of insurance companies can be measured on various counts. For the purpose of the present research the performance has been evaluated on the basis of the parameters like Gross Direct Premium, Underwriting Results Ratio, Incurred Claims Ratio, Market share, Operating Expenses Ratio, Net Retention Ratio, Net Investment Income Ratio, Net Earnings Ratio, Product Development, and Rural and Social Sector Insurance.

6. **Post-reforms period:** This period begins with the insurance sector reforms i.e. from the year 2000-01 and continues till date. For the purpose of the research, the post reform period under study has been restricted to the year 2009-10.

7. **Premium:** Premium is the amount charged by insurance companies for providing insurance coverage to their clients. It may be payable monthly, quarterly, half-yearly or annually by the client. Premium is the best measure to find out the respective market share of various insurance companies.
8. **Pre-reforms period:** It indicates the period from the inception of insurance in India till the year 2000. The period can be further sub-divided into *pre-nationalization period* and *post nationalization period*. Pre-nationalisation period can be marked from the beginning of insurance in India till the year 1972 in which the General Insurance Business Nationalization Act, 1972 was passed in order to nationalize general insurance business i.e. to bring general insurance business under Government’s control. Post-nationalization period is the period ranging from the year 1972 to the year 2000 i.e. the time phase during which general insurance sector was functioning under Government supervision.

9. **Product development:** Product development in respect of general insurance may be expressed as the number of new products developed by the companies, new type of products introduced in the market or diverse products covering new type of risks catering to the changing needs of the insurable public.

10. **Reforms:** The dictionary meaning of reforms is to make changes in something like an institution or a practice in order to improve it. There may be various types of reforms in an economy, like financial sector reforms, political reforms etc. In the year 1991, with the introduction of the New Industrial Policy a lot of reforms took place in the Indian economy. Insurance was no exception. Malhotra Committee was formed in the year 1993 to recommend measures for improving the insurance industry. On the basis of the suggestions of the said committee various reforms were initiated in the insurance sector in India. The present study is in respect of such reforms in general insurance sector only.

11. **Social insurance schemes:** Social security consists of all types of measures - preventive, promotional and protective by statutory, public or private bodies,
especially government for protection against socially recognized conditions, including poverty, old age, disability, unemployment and others. In India, a vast segment of the population is in the unorganized sector, who are poor and vulnerable to various types of risks. They have little money to respond to these risks. Social security may be provided to them by centrally funded social assistance programmes, social insurance schemes, social assistance through welfare funds of central or state governments and by public initiatives. The social insurance schemes include the various schemes launched by the Central and the State Governments for the benefit of weaker sections of the society through the Life Insurance Corporation of India and General Insurance Corporation of India. Insurance Regulatory and Development Authority has imposed certain rural and social sector obligations on public as well as private general insurers and the study throws light on whether these obligations have been met by the them or not?

12. **Tariffication:** Tariff Advisory Committee (TAC) was set up in India in 1968 to control and regulate the rates, advantages, terms and conditions that may be offered by insurers in respect of Indian general insurance business. All the general insurance companies operating in India had to follow the T.A.C. regulations till the end of the tariff based regime. On the basis of guidelines issued by Insurance Regulatory and Development Authority (IRDA) tariffication was phased out gradually in a complete manner.

13. **Underwriting:** The process of selecting risks for insurance and classifying them according to their degrees of insurability so that the appropriate rates may be assigned. The process also includes rejection of those risks that do not qualify.
ENDNOTES:


3. S Arora, “The GIC of India- An Appraisal”, M.Phil. Thesis, Submitted to Department of Commerce, Delhi School of Economics, University of Delhi, Delhi, 1988


43. A K Ronay and B Oztaysi, ‘Performance Measurement of Insurance Company by using Balanced Scorecard and ANP’, date last visited 01-01-2012,


55. Kumar, op cit., pg 453

56. Diacon, Starkey and Brien, op cit.