European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1s (2024)
http://eelet.org.uk

Public Sector General Insurance Companies in India: Performance Trends

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ABSTRACT

A robust system of financial intermediaries has always been perceived as an indispensable requirement for economic development of underdeveloped countries. A comprehensive network of such institutions has been developed in India since it gained independence. The General Insurance Corporation of India is one such financial intermediary. The general insurance business came under the authority of government of India in 1972. The GIC was founded as a state-owned enterprise alongside its four subsidiary companies namely the National Insurance Company, the New India Assurance Company, the Oriental Insurance Company and the United India Assurance Company. In December 1999 the sector was opened up to private participation. While in March 2003 the subsidiaries were delinked from GIC. This paper analyzes whether the heightened competition from private players has enhanced the performance of these companies or if there is still considerable room for improvement.

The incurred claims ratio, solvency ratio, insurance penetration and insurance density are the variables in terms of which the performance has been studied. The period covered is from 2013-14 to 2020-21. Results showed that New India is outperforming other three public general insurance companies. United and National are having large volumes while Oriental, despite being lower in volume is showing higher advancement rates of majority of the variables under study. The steps that have been taken during the reform period have been able to achieve the objective to a certain extent but still there is a scope for a lot of improvement as these companies are still behind the private sector insurance players and very far behind the world average.

Keywords: Penetration, density, incurred claims, general insurance, solvency

JEL Classification: G2, G22

INTRODUCTION

The General Insurance Corporation of India (GIC) was founded by the government through the enactment of the General Insurance Business (Nationalization) Act. 1972, which became effective on January 1, 1973. Functioning as a holding company, the GIC was organized with four subsidiaries: the National Insurance Company, the New India Assurance Company, the Oriental Insurance Company, and the United India Assurance Company.

Upon nationalization, there were a total of 107 Indian and foreign non-life insurance companies operating in India, all of which were amalgamated into the four aforementioned subsidiaries under the purview of the GIC, Tremendous progress was made by the non-life insurance companies after nationalization. The non-life insurance business is of three types, namely, fire, marine and miscellaneous insurance. The most substantial growth was witnessed by miscellaneous insurance during 1980 and 1990 decades. Major growth was seen in non-traditional areas of insurance. The GIC and its subsidiary companies broadened their insurance offerings to cater to diverse societal segments, including factory employees, retail traders, transport operators, craftsmen, and farmers. As a vital financial resource for the corporate realm, the GIC experienced significant growth in its financial robustness over time. The non-life insurance sector, fortified by a robust infrastructure, proactively addressed emerging challenges through continual product innovation, thereby augmenting funds for investment across various economic sectors. Geographically, the GIC expanded substantially, boasting an extensive network comparable to that of the State Bank of India. With 2,842 branch offices, 1,241 divisional offices, and 23 regional offices as of March 31, 1999. The non-life insurance industry ensured widespread awareness and accessibility of insurance services throughout the nation. A multitude of surveyors and agents facilitated the dissemination of insurance products and provided claims settlement services to the insured populace.

Despite notable progress, concerns arose regarding inefficiencies in operations within the non-life insurance sector. Delays in claim settlements and loan approvals were observed, while options for ordinary consumers remained limited to the four GIC subsidiaries - New India. Oriental. United, and National - which offered similar services with little differentiation. Risk categorization was absent, resulting in premium rates that disproportionately affected the majority with low risk.

Consequently, the growth of the non-life insurance market fell short of desired levels. The GIC also fell short in promoting insurance literacy to the necessary degree. Despite being the fifth largest economy globally, the level of property and life coverage for citizens was inadequate. The GIC's coverage extended to only 0.62% of the insurable population in India, with total premiums accounting for just 0.6% of GDP. Hence, there was not only room for more public sector companies but also private competitors.

Taking all these factors into account, the Malhotra committee was established, and in 1994, it submitted a comprehensive report proposing significant changes to the investment strategy and organizational structure of the GIC. Among its recommendations were reducing directed investments from 70% to 45%, increasing the share capital of the GIC with a portion offered to employees and the general public, and similarly augmenting the capital of its subsidiaries with 50% open to public/employee ownership and the remaining 50% held by the government. The committee also advocated for the establishment of an insurance ombudsman to expedite the resolution of policyholder claims.
As a result of these recommendations, the Insurance Regulator and Development Authority Act, 1999 was enacted, culminating into the establishment of Insurance Regulatory and Development Authority (IRDA) with powers akin to the Securities and Exchange Board of India (SEBI). This Act empowered the Authority to handle a range of functions and granted it corporate status.

Furthermore, the government introduced an ombudsman scheme for both life and non-life insurance in November 1998 to address grievances of policyholders regarding premium adjustments and claims settlements.

In December 1999, the insurance sector was liberalized, allowing for competition from domestic and foreign private players and ending the General Insurance Corporation's monopoly on non-life insurance business. Subsequently, on March 21, 2003, the four subsidiaries were detached from the GIC through an amendment to the Insurance Regulatory and Development Authority Act, 1999.

This paper examines the performance of these public sector companies in terms of incurred claims ratio, solvency ratio, insurance penetration and insurance density over an eight-year period from 2013-14 to 2020-21.

REVIEW OF LITERATURE

The field of insurance has attracted considerable attention worldwide, with extensive research conducted across various spheres. While earlier research predominantly focused on the United States, there has been a notable shift towards exploring insurance landscapes in countries like Australia. Nigeria. Switzerland. Germany, Japan. France, China, and Taiwan. These studies have introduced new methodologies that have significantly enhanced the accuracy and utility of research outcomes. This review provides a comprehensive overview of research in the field of insurance, encompassing both non-life and life insurance sectors.

Rai (1996) conducted a comparative analysis of 11 OECD countries, namely. Denmark. Finland. France, Germany, Italy, Japan, Netherlands, Sweden, Switzerland. UK and US examining 106 insurers from 1988 to 1992, utilizing SFA and DFA to assess cost efficiency.

Bernstein (1999) devised estimates to measure the expansion of total factor productivity of Canadian life insurance industry and estimated an annual productivity growth of about one percent for a period of 1979-1989. The study also highlighted the outperformance of insurance industry as compared to the manufacturing industry, from 1973 to 1985. ’

Sinha (2007) used SFA to compare technical efficiency of private and public sector non-life insurance companies in India. He took number of agents and operating expenses as inputs and net premium income as output. He concluded that public sector companies performed better in the area of technical efficiency as compared to private sector companies.

Fenn *et al.* (2008) analyzed the cost efficiency of both life and non-life insurance companies of fourteen countries of Europe namely, UK, Denmark, Switzerland. Austria, Belgium. Germany, Luxembourg, Portugal, Sweden. Finland, Ireland. Italy, Netherlands, Sweden, and France for the period 1995 to 2001. They concluded that larger firms had higher cost inefficiency.

Borges, Nektarios, and Barros (2008) conducted an analysis of the efficiency of Greek life insurance companies utilizing both the CCR and BCC models of Data Envelopment Analysis (DEA). The study spanned from 1994 to 2003. Their findings revealed that larger life insurance companies and those engaged in mergers and acquisitions exhibited higher efficiency levels compared to their counterparts. Additionally, the researchers employed cross-efficiency and super-efficiency models to enhance the accuracy of the results.

Singh and Kumar (2009) conducted a comparison of the performance of public and private sector insurance companies utilizing conventional ratios.

Singh (2010) discussed the importance of crop insurance in managing production risks in Indian agriculture and reviewed available products and schemes. He specifically discussed the National Agricultural Insurance Scheme and Weather Based Insurance Scheme. The method of study was theoretical analysis using statistics related to crop insurance.

Caporale, Cerrato and Zhang (2017) analyzed the insolvency risk of non-life insurance companies in UK. They found that other than the traditional factors like interest rates, leverage, etc. microeconomic factors like wholesale prices and credit provided by financial institutions also have a bearing on solvency risk of non-life insurance companies. The study concluded that primary insurers can mitigate their insurance risk by getting themselves reinsured from a reinsurer.

Sinha. Cvetkoska and Peovski (2022) evaluated the efficiency performance of fifteen non-life insurance Companies in India over a period of 6 years. The analysis also incorporated the effect of environmental variables on efficiency. It concluded that while efficiency is positively related to the age of insurer, return on equity, market share it is negatively related to size.

The main purpose of reforms in the non-life insurance sector was to inject competition into the complacent working of the existing public sector insurance companies. How far has this been achieved has not been analyzed by any of the studies done in India. Therefore, to fill this gap the present study focusses exclusively on the performance trends of these public sector companies.

METHODOLOGY

The aim of the study is to analyze the trends in performance in terms of incurred claims ratio, solvency ratio, penetration and density of non-life insurance business of public sector companies in India.

The data of these companies from 2013-14 to 2020-21 has been taken. The year is ending as on 31st March. The data source is the website of Insurance Regulatory and Development Authority of India.

The method used is semi-log growth equation and special indices. The semi-log growth equation is as under:

$$InY = a + bT + p$$

Where, *In Y* = dependent variable's natural log
a = intercept dependent variable Y
b = slope of dependent variable Y which gives the variable's rate of growth
T= time from 2014-2021
p= error term

Specia Indices are as follows:

1. **Penetration ratio**

$$\textit{Non-life Insurance Penetration} = \frac{Total\ Premium}{GDP} \times 100$$

Through the penetration ratio the total general insurance premium as a percentage of gross domestic product (GDP) of an economy has been calculated.

2. **Density of non-life insurance**

$$\textit{Density of non-life Insurance} = \frac{Total\ Premium}{Population}$$

RESULTS AND DISCUSSION

1) Incurred Claims Ratio

Claims incurred ratio of non-life insurance companies is depicted in table 1 A. Claims incurred ratio is estimated by dividing total net incurred claims by net premium. From the eight years under study New India is having the lowest claims incurred ratio in maximum number of years i.e. three out of the eight years. Oriental and National are next in line with Oriental having a slight edge over National. United India exhibits the highest claims incurred ratio in two of eight years whereas it has been the lowest of all four only once.

TABLE 1A

INCURRED CLAIMS RATIO (Percent)

Particulars	2014	2015	2016	2017	2018	2019	2020	2021
New India	85.74	76.38	71.00	102.12	76.97	113.07	76.13	74.07
Oriental	84.07	72.04	76.97	91.00	86.31	112.49	79.55	53.64
National	73.19	74.78	90.93	51.92	128.02	55.91	77.11	71.31
United	72.01	75.21	74.31	102.96	98.67	89.48	130.09	58.40
Total	**80.39**	**75.21**	**76.03**	**91.40**	**91.31**	98.34	**86.20**	**68.33**

Source: IRDA Annual Reports

The improvement rate of incurred claims ratio is shown in table IB using semi-log growth equation. Oriental and National have shown decline in growth rate of incurred claims ratio. Oriental has shown the greatest decline of 1.86% and National of 0.70%. Whereas in case of United the rate has actually increased by 2.13% over the eight-year period under study. Though this growth rate is insignificant. New India has also exhibited a rise in the incurred claims ratio of 0.09%. The combined of all the companies is an increase of 0.38% (though insignificant at 5% level of significance).

TABLE IB
GROWTH RAH OF CLAIMS INCURRED RATIO OF NON-LIFE INSURANCE COMPANIES (2014-2021)

INSURER	Rate of increase (in percent)	p value	Significance (p< 0.05)
New India	0.09	0.9763024	Insignificant
Oriental	-1.86	0.6079220	Insignificant
National	-0.70	0.8859527	Insignificant
United	2.13	0.6228138	Insignificant
Public Total	0.38	0.8597543	Insignificant

Source: Calculated by the author.

2) SOLVENCY RATIOS

TABLE 2

SOLVENCY RATIO

Particulars	2014	2015	2016	2017	2018	2019	2020	2021
New India	2.61	2.44	2.30	2.19	2.58	2.13	2.11	2.13
Oriental	1.64	1.68	1.59	1.11	1.66	1.57	0.92	1.40
National	1.55	1.52	1.26	1.90	1.55	1.04	0.02	0.62
United	2.54	2.36	1.91	1.15	1.54	1.52	0.30	1.41

Source: IRDA Annual Reports

Solvency margin is very important for an insurance company as it determines its ability to pay claims. If the insurer does not have enough assets to pay the claims or the assets are such as cannot be disposed of in time then it may become insolvent. The financial stability or solvency of an insurance company hinges primarily on whether it has established sufficient technical reserves to meet its obligations and possesses adequate capital as a buffer. The solvency ratio, calculated as the ratio of available solvency margin to required solvency margin, serves as a key indicator in this regard. The solvency margin represents the surplus of asset value over liability value. In accordance with the IRDAI {Assets,

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1s (2024)
http://eelet.org.uk

Liabilities and Solvency Margin of General Insurance Business) Regulations, 2016. General insurance companies are mandated to uphold a control level solvency margin of 150%. This threshold signifies the minimum solvency ratio below which the IRDA would initiate corrective measures to address potential financial risks.

The solvency ratio of all the four companies from March 2014 to March 2021 has been depicted in table 2. The highest solvency ratio has been shown by New India which is followed by Oriental and United which have been able to meet prescribed solvency margins in five out of eight years. National has been the lowest in six years. Also, it has not been able to meet the prescribed minimum the most among all four.

3) INSURANCE PENETRATION AND DENSITY

Level of Penetration:

A comparison has been made between the level of general insurance penetration in select economies of the world in table 3. This is to get an understanding of where we stand and what improvements need to be made. India's general insurance penetration has improved from 0.80% in 2014 to 1.0% in 2021. USA, United Kingdom, Australia and Japan have insurance penetration of 9%, 2.3%, 3.6% and 2.4% respectively in 2021. However, this improvement has been very slow for India and we are far behind as compared to the world average of 4.1% hi 2021.

TABLE 3

GENERAL INSURANCE PENETRATION IN VARIOUS COUNTRIES

(In Percent)

Countries	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Australia	2.10	2.20	2.20	3.53	3.48	3.46	3.44	3.60
Germany	3.60	3.40	3.40	3.33	3.41	3.62	3.69	4.00
Russia	1.20	1.20	1.20	1.13	1.04	1.06	0.97	1.00
South Africa	2.70	2.70	2.70	2.74	2.74	2.62	2.67	2.50
Switzerland	4.40	4.10	4.10	4.12	4.12	4.10	4.09	4.10
United Kingdom	2.80	2.60	2.40	2.58	2.36	2.29	2.31	2.30
United States	4.30	4.30	4.20	4.29	4.28	4.26	8.51	9.00
Asian Countries								
India	**0.80**	**0.70**	**0.70**	**0.77**	**0.93**	**0.97**	**0.94**	**1.00**
Japan	2.30	2.40	2.60	2.37	2.34	2.14	2.31	2.40
Pakistan	0.30	0.30	0.30	0.26	0.26	0.25	0.27	0.30
PR China	1.40	1.50	1.60	1.81	1.89	1.92	2.01	2.10
Singapore	1.60	1.60	1.70	1.67	1.58	1.60	1.59	1.90
Sri Lanka	0.70	0.70	0.70	0.6	0.62	0.62	0.70	0.60
Thailand	1.70	2.20	1.80	1.70	1.69	1.68	1.71	1.90
World	**2.80**	**2.70**	**2.80**	**2.81**	**2.80**	**2.78**	**3.88**	**4.10**

Source: Swiss Re, Sigma various volumes

data pertaining to financial year

The share of insurance penetration both individual and combined, of public general insurance companies in India has been depicted in table 4.

TABLE 4

INSURANCE PENETRATION OF PUBLIC SECTOR INSURANCE COMPANIES

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(in percent)

Insurer	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
New India	0.1222	0.1242	0.1290	0.1403	0.1472	0.1409	0.1460	0.1599
Oriental	0.0648	0.0607	0.0625	0.0722	0.0687	0.0714	0.0688	0.0646
National	0.0913	0.0905	0.0873	0.0928	0.0950	0.0804	0.0752	0.0718
United	0.0864	0.0858	0.0890	0.1044	0.1020	0.0869	0.0861	0.0846
Public Total	0.3648	0.3611	0.3677	0.4097	0.4129	0.3796	0.3761	0.3809

Source: Author's calculations

On analyzing table 4 we find a discernible decline in insurance penetration for National and United, despite an overall increase in penetration across all non-life insurance companies over the years (from 0.80% hi 2014 to 1.0% in 2021). New India's penetration has shown improvement, while Oriental's remains relatively stable. When considering the combined penetration of all public sector general insurance companies, there's a modest increase from 0.36% in 2014 to 0.38% in 2021.

Comparing the individual penetrations of the companies, New India emerges with the most penetration of 0.12% in 2014, while Oriental lags behind with a penetration of 0.06%. This analysis underscores that the premium growth of public sector non-life insurance companies is trailing behind the GDP growth rate. Furthermore, it indicates a rising penetration by private general insurance companies, suggesting their ability to expand their reach and contribute to the overall upward trend in general insurance penetration.

Non-life Insurance Density:

The non-life insurance density of various countries from 2014 to 2021 is shown in table 5. It is expressed in US Dollars. It measures the per capita spending on general insurance and is an estimate of growth of the non-life insurance market.

TABLE 5

INTERNATIONAL COMPARISON OF GENERAL INSURANCE DENSITY

(in US Dollars)

Countries	2014	2015	2016	2017	2018	2019	2020	2021
Australia	1472	1354	1128	1839	1942	1957	1875	1880
Germany	1585	1617	1381	1397	1519	1747	1712	1827
Russia	180	161	102	100	113	114	113	105
South Africa	181	176	155	147	167	170	160	124
Switzerland	3490	3542	3292	3233	3289	3379	3332	3557
United Kingdom	1087	1185	1067	1031	938	971	978	949
United States	2296	2360	2377	2449	2542	2672	5580	5754
Asian Countries								
India#	**11**	**11**	**12**	**13**	**18**	**19**	**19**	**19**
Japan	861	852	837	928	901	837	930	951
Pakistan	3	4	4	4	4	4	4	3
PR China	91	109	128	147	159	185	201	214
Singapore	863	919	894	882	915	1014	1028	1110
Sri Lanka	21	23	25	25	25	26	29	24
Thailand	96	125	104	101	112	123	134	139

World	**285**	**294**	**276**	**285**	**297**	**312**	**439**	**449**

Source: Swiss Re, Sigma various volumes

data relates to financial year.

As per table 5 India's density has increased from 11 dollars in 2014 to 19 dollars in 2021 this means an increase of approximately 1.7. However, we are far behind in comparison to other developed countries of the world like USA (5754), UK (949). Australia (1880), Japan (951). etc. Sri Lanka is also ahead of us with an insurance density of 24 US dollars.

TABLE 6

INSURANCE DENSITY OF PUBLIC SECTOR INSURANCE COMPANIES

(in rupees)

Insurer	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
New India	105.96	118.16	134.11	161.34	186.00	194.73	215.33	226.59
Oriental	56.21	57.72	65.02	83.04	86.77	98.69	101.42	91.48
National	79.20	86.12	90.74	106.69	120.09	111.09	110.96	101.81
United	74.94	81.61	92.49	119.99	128.86	120.17	126.92	119.88
Public Total	316.30	343.60	382.36	471.06	521.72	524.68	554.63	539.76
Overall Total	616.97	665.20	749.96	978.35	1134.36	1262.30	1392.70	1450.27

Source: Author's calculations

Table 6 depicts the insurance density of public companies for the eight-year period under study. Table 5 also showed the overall density but that was in dollars and here it is in rupees. On analyzing the table we find that New India has the most density in all the years. While Oriental has the lowest. However, when we see the rate of increase of insurance density it is highest in case of United, a 2.2 times increase, from rupees 74.94 in 2013-14 to rupees 119.88 in 2020-21. Next is New India with a 2.14 times increase and then there is Oriental at 1.63 times increase and lastly it is National at a 1.3 times increase, from rupees 79.2 hi 2013-14 to rupees 101.81 in 2020-21. Overall total of public sector companies is exhibiting a 1.7 times increase while the overall for all public and private companies is 2.35 times from rupees 617 in 2014 to rupees 1450 in 2021. This means the public companies are behind the private companies who are doing far better.

Growth of non-life insurance Penetration and Density:

An overview of non-life insurance penetration and density was given in the earlier section. Now we shall analyze the expansion of these two parameters using simple indices and semi-log growth equation.

Simple Indices: Simple indices have been calculated using the year 2014 as base.

TABLE 7

WORLDWIDE COMPARISON OF NON-LIFE INSURANCE PENETRATION INDICES

(base 2013)

Countries	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Australia	100.00	104.76	104.76	168.10	165.71	164.76	163.81	171.43
Germany	100.00	94.44	94.44	92.50	94.72	100.56	102.50	111.11
Russia	100.00	100.00	100.00	94.17	86.67	88.33	80.83	83.33
South Africa	100.00	100.00	100.00	101.48	101.48	97.04	98.89	92.59

Switzerland	100.00	93.18	93.18	93.64	93.64	93.18	92.95	93.18
United Kingdom	100.00	92.86	85.71	92.14	84.29	81.79	82.50	82.14
United States	100.00	100.00	97.67	99.77	99.53	99.07	197.91	209.30
Asian Countries								
India	100.00	87.50	87.50	96.25	116.25	121.25	117.50	125.00
Japan	100.00	104.35	113.04	103.04	101.74	93.04	100.43	104.35
Pakistan	100.00	100.00	100.00	86.67	86.67	83.33	90.00	100.00
PR China	100.00	107.14	114.29	129.29	135.00	137.14	143.57	150.00
Singapore	100.00	100.00	106.25	104.38	98.75	100.00	99.38	118.75
Sri Lanka	100.00	100.00	100.00	85.71	88.57	88.57	100.00	85.71
Thailand	100.00	129.41	105.88	100.00	99.41	98.82	100.59	111.76
World	100.00	96.43	100.00	100.36	100.00	99.29	138.57	146.43

Source: Author's calculations

As is evident from table 7 that as against the base year of 2014 the index has dipped for Russia. Switzerland. UK and Sri Lanka. It remained almost same for Germany. USA, Australia and China show the maximum increase while India is at the fourth place with 25 percent increase, among the countries.

On close observation we discover that the countries which show high penetration of non-life insurance like Switzerland. UK, Germany and Japan as per table 3 are actually falling in penetration index or rising at a slow pace. Whereas developing economies like China and India are exhibiting a rise in penetration index.

TABLE 8

INDICES OF INSURANCE PENETRATION OF PUBLIC SECTOR NON-LIFE INSURANCE COMPANIES

(base 2013-14)

Insurer	2013-14	2014 15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
New India	100.00	101.60	105.55	114.83	120.47	115.28	119.48	130.85
Oriental	100.00	93.56	96.45	111.41	105.94	110.13	106.08	99.58
National	100.00	99.07	95.54	101.59	104.06	87.99	82.38	78.65
United	100.00	99.22	102.92	120.75	118.00	100.59	99.58	97.88
Public Total	100.00	98.97	100.80	112.31	113.19	104.05	103.10	104.41

Source: Author’s Calculations

While table 7 gave penetration indices of all the non-life insurance companies in India. Table 8 gives the insurance penetration indices of public sector companies. Only New India has an index of more than hundred meaning a positive increase in insurance penetration whereas for all the other companies this index is negative as against the base year of 2013-14. National is exhibiting a great downfall of 21% which is the highest. Oriental and United show a. decline of 2% and 0.5% respectively.

TABLE 9

WORLDWIDE COMPARISON OF NON-LIFE INSURANCE DENSITY INDICES

(base: 2013)

Countries	2014	2015	2016	2017	2018	2019	2020	2021
Australia	100.00	91.98	76.63	124.93	131.93	132.95	127.38	127.72

Germany	100.00	102.02	87.13	88.14	95.84	110.22	108.01	115.27
Russia	100.00	89.44	56.67	55.56	62.78	63.33	62.78	58.33
South Africa	100.00	97.24	85.64	81.22	92.27	93.92	88.40	68.51
Switzerland	100.00	101.49	94.33	92.64	94.24	96.82	95.47	101.92
United Kingdom	100.00	109.02	98.16	94.85	86.29	89.33	89.97	87.30
United States	100.00	102.79	103.53	106.66	110.71	116.38	243.03	250.61
Asian Countries								
India	100.00	100.00	109.09	118.18	163.64	172.73	172.73	172.73
Japan	100.00	98.95	97.21	107.78	104.65	97.21	108.01	110.45
Pakistan	100.00	133.33	133.33	133.33	133.33	133.33	133.33	100.00
PR China	100.00	119.78	140.66	161.54	174.73	203.30	220.88	235.16
Singapore	100.00	106.49	103.59	102.20	106.03	117.50	119.12	128.62
Sri Lanka	100.00	109.52	119.05	119.05	119.05	123.81	138.10	114.29
Thailand	100.00	130.21	108.33	105.21	116.67	128.13	139.58	144.79
World	100.00	103.16	96.84	100.00	104.21	109.47	154.04	157.54

Source: Author's calculations

On comparing the year 2021 with the base year (table 9) we find that USA has shown tremendous increase of 150% whereas Russia shows the greatest decrease of 41%. The advanced economies of the world are doing fairly well other than UK which exhibit a decline of 13%. While Switzerland is almost the same over the eight- year period. China has shown a remarkable increase of 135% while India is also doing fine with 73% increase and is showing the third highest increase among the countries given in the table.

Therefore, on the basis of density index it can be concluded that on an average there has been an escalation in per capita spending on insurance in most of the countries of the world as given in table 9.

TABLE 10

INSURANCE DENSITY INDICES OF PUBLIC SECTOR NON-LIFE INSURANCE COMPANIES

(base 2013-14)

Insurer	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
New India	100.00	111.52	126.57	152.27	175.55	183.78	203.22	213.86
Oriental	100.00	102.68	115.67	147.74	154.37	175.57	180.43	162.75
National	100.00	108.74	114.58	134.71	151.63	140.27	140.11	128.55
United	100.00	108.90	123.42	160.12	171.95	160.36	169.37	159.98
Public Total	100.00	108.63	120.88	148.93	164.94	165.88	175.35	170.65
Overall Total	100.00	107.82	121.56	158.58	183.86	204.60	225.73	235.07

Source: Author's Calculations

The insurance density indices of public sector general insurance companies indicate (according to Table 10) that New India has exhibited the highest growth rate of 114%. Following New India is Oriental, showing a growth of 62%, trailed by United with a growth rate of 60%. National demonstrates the lowest growth rate at 29%. It is evident that similar to penetration, New India leads in terms of density as well.

Analysis of growth rate : To ascertain whether the expected trends are being observed, we must analyze the following growth rates and their relationships:

1. Growth rate of GDP and Penetration:

European Economic Letters
ISSN 2323-5233
Vol 14, Issue 1s (2024)
http://eelet.org.uk

This comparison examines the rate at which GDP is increasing relative to the growth in general insurance penetration. If GDP growth outpaces the increase in penetration, it suggests that the economy is expanding faster than the general insurance market.

2. Growth rate of population, per capita GDP. and Density:

This analysis considers the growth rates of population and per capita GDP alongside the density of general insurance. If per capita GDP growth exceeds population growth and the density of general insurance is increasing, it implies that the average individual's purchasing power is rising faster than the population, leading to increased spending on insurance.

By studying these relationships, we can gain insights into whether economic growth is driving higher insurance uptake and whether individuals' increasing incomes are translating into greater insurance expenditures.

(1) **Growth rate of GDP and Penetration:**

Table 11 gives the growth rates for the purpose of comparison between growth rate of penetration and GDP.

TABLE 11

GROWTH RATES SUMMARY (2014-2021)

COMPANY	**GROWTH RATE OF PENETRATION**			**GROWTH RATE OF GDP**		
	Growth rate (in percent)	**p** value	**Significance ($p < 0.05$)**	**Growth rate (in percent)**	**p value**	**Significance ($p < 0.05$)**
New India	3.58	0.000410	significant	**8.87**	**0.0000**	**Significant**
Oriental	2.06	0.032667	Significant			
National	-3.40	0.019686	Significant			
United	-0.27	0.854092	Insignificant			
Public Total	0.73	0.394324	Insignificant			
All India	5.00	0.009686	significant			

Source: Calculated by the author.

New India and Oriental demonstrate a positive growth of penetration, with New India leading at 3.58%, followed by Oriental at 2.06%. Conversely, National and United exhibit negative growth rates of penetration, with National at -3.4% and United at -0.27% (though statistically insignificant). Despite the economy experiencing a robust growth of 8.87% in GDP. It's evident that the premium of public sector non-life insurance companies is not expanding at a commensurate pace. In other words, these companies have not capitalized on the opportunities presented by the growing economy.

The overall penetration growth rate for all four companies combined is positive at 4.76%, though statistically insignificant. Comparatively, the penetration growth rate for the entire country over the 8-year period stands at 5%. This analysis highlights the discrepancy between the growth rates of the economy and non-life insurance penetration, indicating a potential missed opportunity for public sector general insurance companies to leverage economic growth for increased penetration.

2) Growth Rates of Population, Per Capita GDP and Non-life Insurance Density:

TABLE 12

GROWTH RATES SUMMARY (2014-2021)

INSURER	**GROWTH RAH OF DENSITY**		**GROWTH RAH OF PER CAPITA GDP**		**GROWTH RATE OF POPULATION**	
	Growth rate (in percent)	**Significance ($p < 0.05$)**	**Growth rate (in percent)**	**Significance ($p < 0.05$)**	**Growth rate (in percent)**	**Significance ($p < 0.05$)**

New India	11.41	Significant	**7.83**	**Significant**	**1.04**	**Significant**
Oriental	8.96	Significant				
National	4.46	Significant				
United	7.56	Significant				
Public Total	8.86	Significant				
All India	13.56	Significant				

Source: Calculated by the author.

Table 12 provides a comparative analysis of the growth rates of population, per capita GDP and non-life insurance density for the four companies. The population of India has grown at a rate of 1.04% from 2001-2011, a statistically significant figure. Notably, the GDP per capita has experienced a significant growth rate of 7.83%, indicating a faster increase in income compared to population growth.

The total growth rate of all four public sector non-life insurance companies is a significant 8.86%. Interestingly, the all-India growth rate of density stands at a substantial 13.56%, suggesting that with the increase in per capita income, spending on non-life insurance products from private non-life insurance companies is increasing at an even faster rate. This underscores the growing importance of insurance in the overall expenditure portfolio as income levels rise.

CONCLUSION

After having analyzed the performance of the companies on various parameters, it can be concluded that as far as rise of claims incurred ratio is concerned. Oriental is on the top while United is at the bottom. However, New India has the least claims incurred ratio in three out of eight years which is the maximum for any company out of the four. The solvency ratio of New India is very good as it is more than 1.5 throughout while that of National is the lowest in most of the years under analysis. In terms of growth rate of penetration and density New India remains first but United shows a decline in growth rate of penetration. Oriental shows positive growth rate while National has the highest decline. Growth rate of density is highest for New India and least for National. New India is performing better in terms of almost all the variables under study. In terms of volumes National and United are also good but when it comes to growth rate they fail while Oriental which does not have very high volumes, is improving over the years and is second to New India in terms of growth rate of variables. National seems to be performing the worst while United is slightly better. New India which already has huge volumes is also performing well in terms of growth rate.

Thus, it can be concluded, United and National need to improve their performance otherwise Oriental will very soon surpass them in volumes as well. New India is at the pinnacle right now in terms of both volumes and growth rates and others need to take a lesson from it.

REFERENCES

1. Bernstein. J.I. (1999). Total Factor Productivity Growth in the Canadian Life Insurance
2. Industry: 1979-1989. *The Canadian Journal of Economics,* 32(2), 500-517.
3. Borges, M.. Nektarios. M.. and Barros, C.. (2008). Analyzing the Efficiency' of the Greek Life
4. Insurance Industry-' *European Research Studies Journal.* 11(3). 35-52.
5. Caporalea, G. M.. Cerrato, Mario and Zhang, Xuan (2017). Analyzing the determinants of insolvency risk for general insurance firms in the UK. *Journal of Banking and Finance,* 84, 107-122.
6. Donni, O and Fecher. F. (1997). Efficiency and productivity of insurance industry in OECD countries. *The Gene\a Papers on Risk and Insurance-Issues and Practice,* 22(4), 523-535.
7. Fenn, P.. Vencappa, D.. Diacon, S,, Klumpes. P. and O'Brien C. (2008). Market structure and the efficiency of European insurance companies: A stochastic frontier analysis. *Journal of Banking and Finance,* 32(1). 86-100.
8. General Insurance Business (Nationalization Act. 1972).
9. Handbook of Indian Insurance Statistics, 2013-14 to 2020-21. *Insurance Regulatory and Development Authority of India (IRDA).*
10. Malhotra Committee Report on Reforms in the Insurance Sector (1994). Government of India, Ministry of Finance, New Delhi.
11. Singh. Gurdev (2010). Crop insurance in India. Indian Institute of Management. Ahmedabad, *Research and Publications,* June 2010.
12. Swiss Reinsurance Company Database.
13. Rai. A. (1996). Cost efficiency of international insurance firms. *Journal of Financial Sendees Research,* 10(3),213-233.

14. Singh, Manjeet and Kumar, Rohit (2009). Emerging trends in financial performance of general insurance industry in India. *India Management Studies Journal,* 13 (2009), 31-44.
15. Sinha, R.P , (2007). Productivity and efficiency of Indian General Insurance Industry. *The IC FAI Journal of Risk and Insurance.* April 2007. 33-43.
16. Sinha. R.P.. Cvetkoska, Violeta and Peovski, Filip (2022). Efficiency of Indian general insurance companies: A convex non-parametric least squares approach. *Croatian Operational Research Review,* 13(2022). 187-201. '